USER MANUAL

KPM302
KPM303
TK302
TK303

CUSTOM®

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UNLESS OTHERWISE SPECIFIED, THE INFORMATION GIVEN IN THIS MANUAL
ARE REFERRED TO ALL MODELS IN PRODUCTION AT THE ISSUE DATE OF THIS DOCUMENT.

GENERAL SAFETY INFORMATION

Your attention is drawn to the following actions that could compromise the characteristics of the product:

- Read and retain the instructions which follow.
- Follow all indications and instructions given on the device.
- Make sure that the surface on which the device rests is stable. If it is not, the device could fall, seriously damaging it.
- Make sure that the device rests on a hard (non-padded) surface and that there is sufficient ventilation.
- When positioning the device, make sure cables do not get damaged.
- Use the type of electrical power supply indicated on the device label. If uncertain, contact your dealer.
- Make sure the electrical system that supplies power to the device is equipped with a ground wire and is protected by a differential switch.
- Do not block the ventilation openings.
- Do not insert objects inside the device as this could cause short-circuiting or damage components that could jeopardize printer functioning.
- Do not carry out repairs on the device yourself, except for the normal maintenance operations given in the user manual.
- Make sure that there is an easily-accessible outlet with a capacity of no less than 10A closely to where the device is to be installed.
- Periodically perform scheduled maintenance on the device to avoid dirt build-up that could compromise the correct, safe operation of the unit.
- Before any type of work is done on the machine, disconnect the power supply.
- Do not touch the head heating line with bare hands or metal objects. Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.

GENERAL INSTRUCTIONS

CUSTOM S.p.A. declines all responsibility for accidents or damage to persons or property occurring as a result of tampering, structural or functional modifications, unsuitable or incorrect installations, environments not in keeping with the equipment's protection degree or with the required temperature and humidity conditions, failure to carry out maintenance and periodical inspections and poor repair work.

CE THE CE MARK AFFIXED TO THE PRODUCT CERTIFY THAT THE PRODUCT SATISFIES THE BASIC SAFETY REQUIREMENTS.

The device is in conformity with the essential Electromagnetic Compatibility and Electric Safety requirements laid down in Directives 2006/95/CE and 2004/108/CE inasmuch as it was designed in conformity with the provisions laid down in the following Standards:

- EN 55022 Class B *(Limits and methods of measurements of radio disturbance characteristics of Information Technology Equipment)*
- EN 55024 *(Information Technology Equipment – Immunity characteristics – Limits and methods of measurement)*
- EN 60950-1 *(Safety of information equipment including electrical business equipment)*

GUIDELINES FOR THE DISPOSAL OF THE PRODUCT

The crossed-out rubbish bin logo means that used electrical and electronic products shall NOT be mixed with unsorted municipal waste. For more detailed information about recycling of this product, refer to the instructions of your country for the disposal of these products.

- Do not dispose of this equipment as miscellaneous solid municipal waste, but arrange to have it collected separately.
- The re-use or correct recycling of the electronic and electrical equipment (EEE) is important in order to protect the environment and the wellbeing of humans.
- In accordance with European Directive WEEE 2002/96/EC, special collection points are available to which to deliver waste electrical and electronic equipment and the equipment can also be handed over to a distributor at the moment of purchasing a new equivalent type.
- The public administration and producers of electrical and electronic equipment are involved in facilitating the processes of the re-use and recovery of waste electrical and electronic equipment through the organisation of collection activities and the use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with the appropriate penalties.

The format used for this manual improves use of natural resources reducing the quantity of necessary paper to print this copy.

POWER SUPPLY INFORMATION

The device is fed by a SELV power supply (Safety Extra Low Voltage).

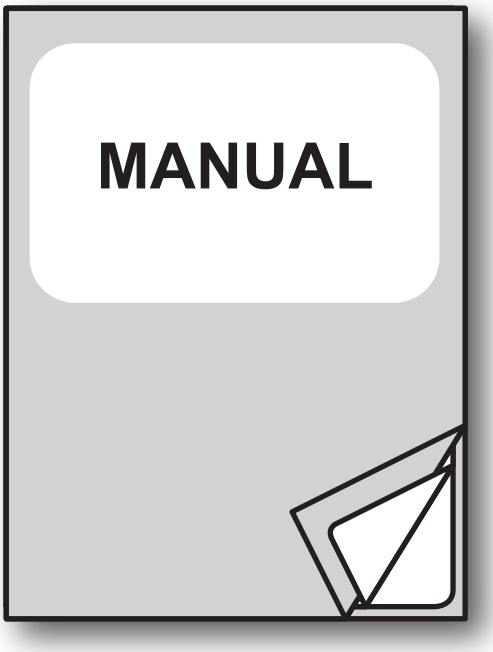
When power supply unit is installed as accessory in the end-product, the following items must be considered:

- The power supply must be properly bonded to the main protective earthing termination.
- A suitable mechanical, electrical and fire enclosure must be provided.
- The power supply has been evaluated for use in a pollution degree 2 environment, overvoltage category II.
- An appropriate disconnect device must be provided.
- The power supply must be installed in compliance with the mounting, creepage, clearance, markings and segregation requirements of the end-use application.

WARNING: PRESENCE OF DANGEROUS VOLTAGES (POWER SUPPLY)

Risk of electric shock (accessory power supply).

WARNING: PRESENCE OF HAZARDOUS MOVING PARTS



For details on the commands,
refer to the manual with code **77200000030600**

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1 INTRODUCTION

1.1 Document structure

This document includes the following chapters:

1	INTRODUCTION	information about this document
2	DESCRIPTION	general description of device
3	INSTALLATION	information required for a correct installation of the device
4	OPERATION	information required to make the device operative
5	CONFIGURATION	description of the configuration parameters of the device
6	MAINTENANCE	information for a correct periodic maintenance
7	SPECIFICATION	technical specification for the device and its accessories
8	CONSUMABLES	description and installation of the available consumables for the device
9	ACCESSORIES	description and installation of the available accessories for the device
10	ALIGNMENT	information required for managing the paper alignment
11	TECHNICAL SERVICE	information required for contacting the technical service
12	ADVANCED FUNCTIONS	information about special functions available with the device

1.2 Explanatory notes used in this manual

NOTE:	Gives important information or suggestions relative to the use of the device
ATTENTION:	Gives information that must be carefully followed to guard against damaging the device
DANGER:	Gives information that must be carefully followed to guard against operator injury or damage

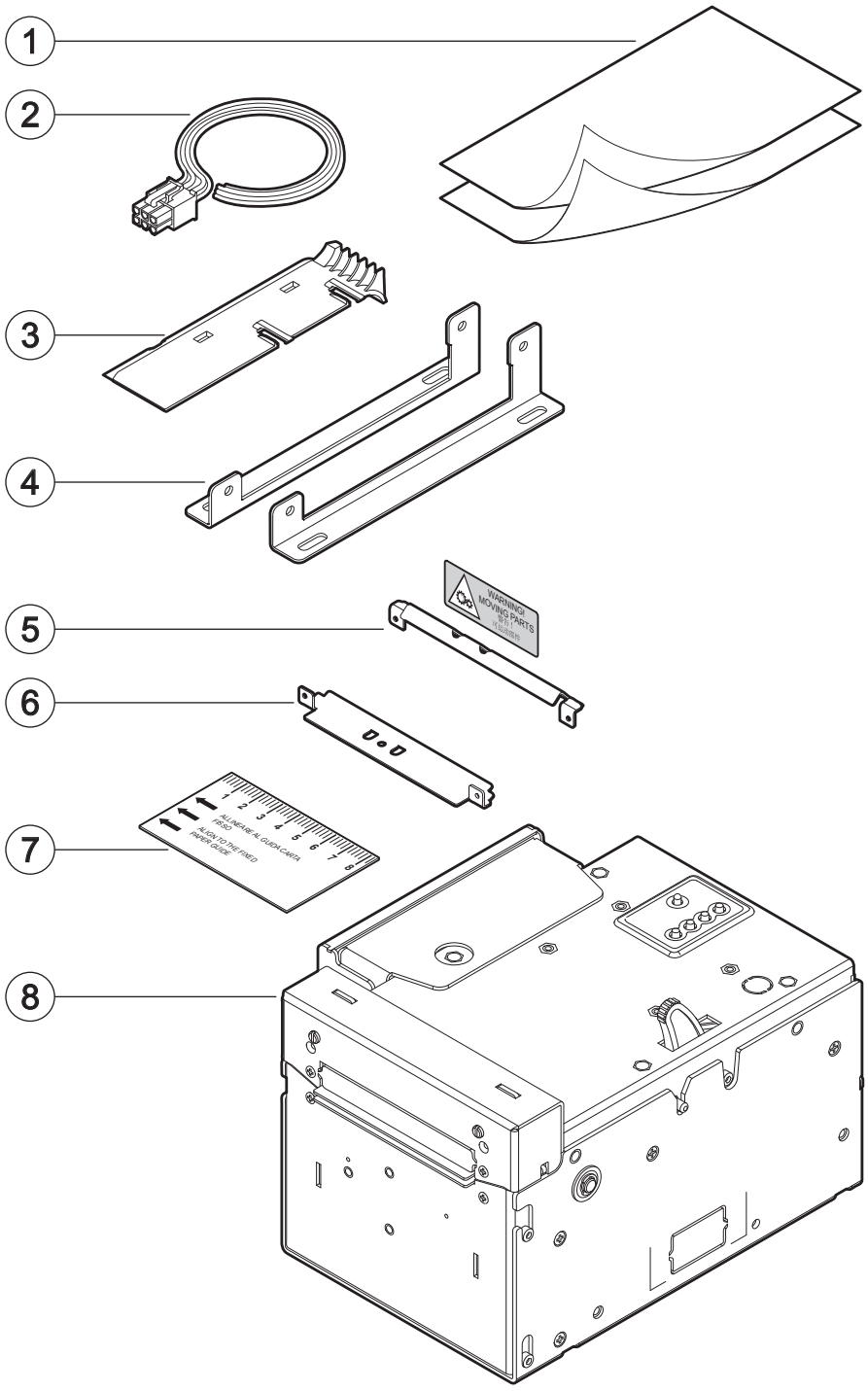
2 DESCRIPTION

2.1 Box content

Remove the device from its carton being careful not to damage the packing material so that it may be re-used if the device is to be transported in the future.
Make sure that all the components illustrated below are present and that there are no signs of damage. If there are, contact Customer Service.

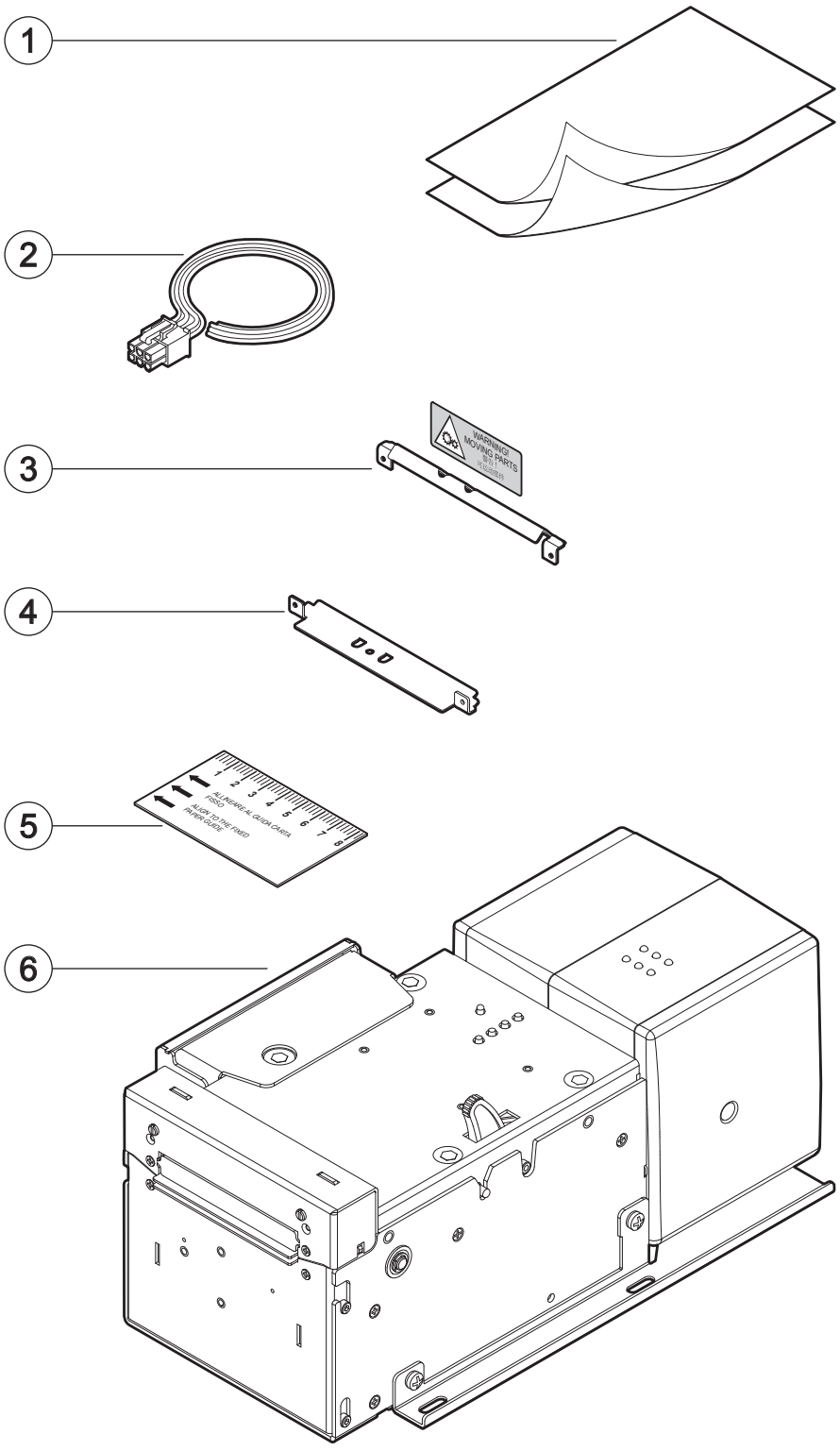
KPM302, KPM303

1. Installation instruction sheet
2. Power supply cable
3. Spacer for paper width <40mm *(only for standard models)*
4. Additional fixing brackets
5. CUT&DROP configuration kit *(only for standard models)*
6. BURSTER configuration kit *(only for standard models)*
7. Ruler
8. Device



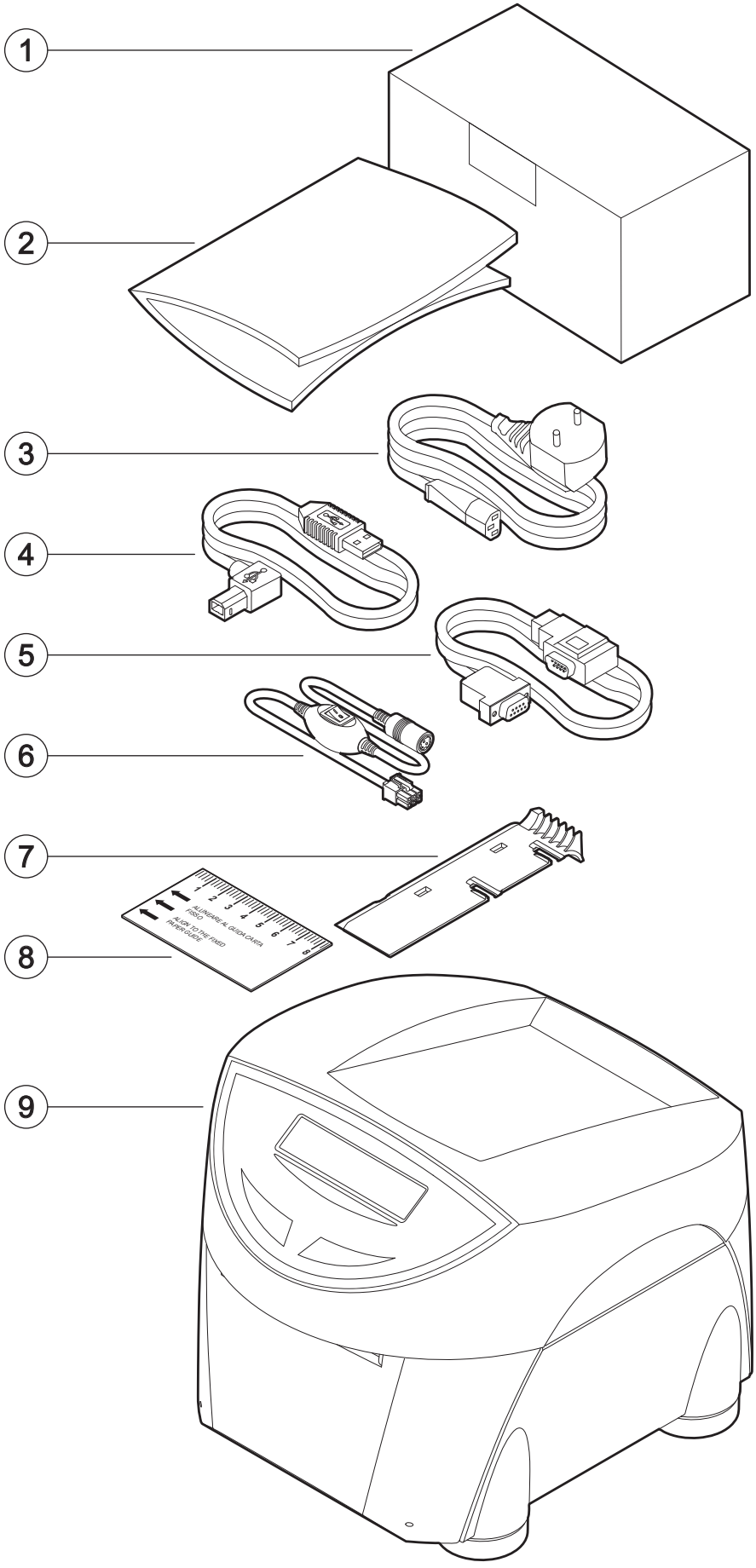
KPM302 (models with triple feeder)

1. Installation instructions sheet
2. Power supply cable
3. CUT&DROP configuration kit *(only for standard models)*
4. BURSTER configuration kit *(only for standard models)*
5. Ruler
6. Device



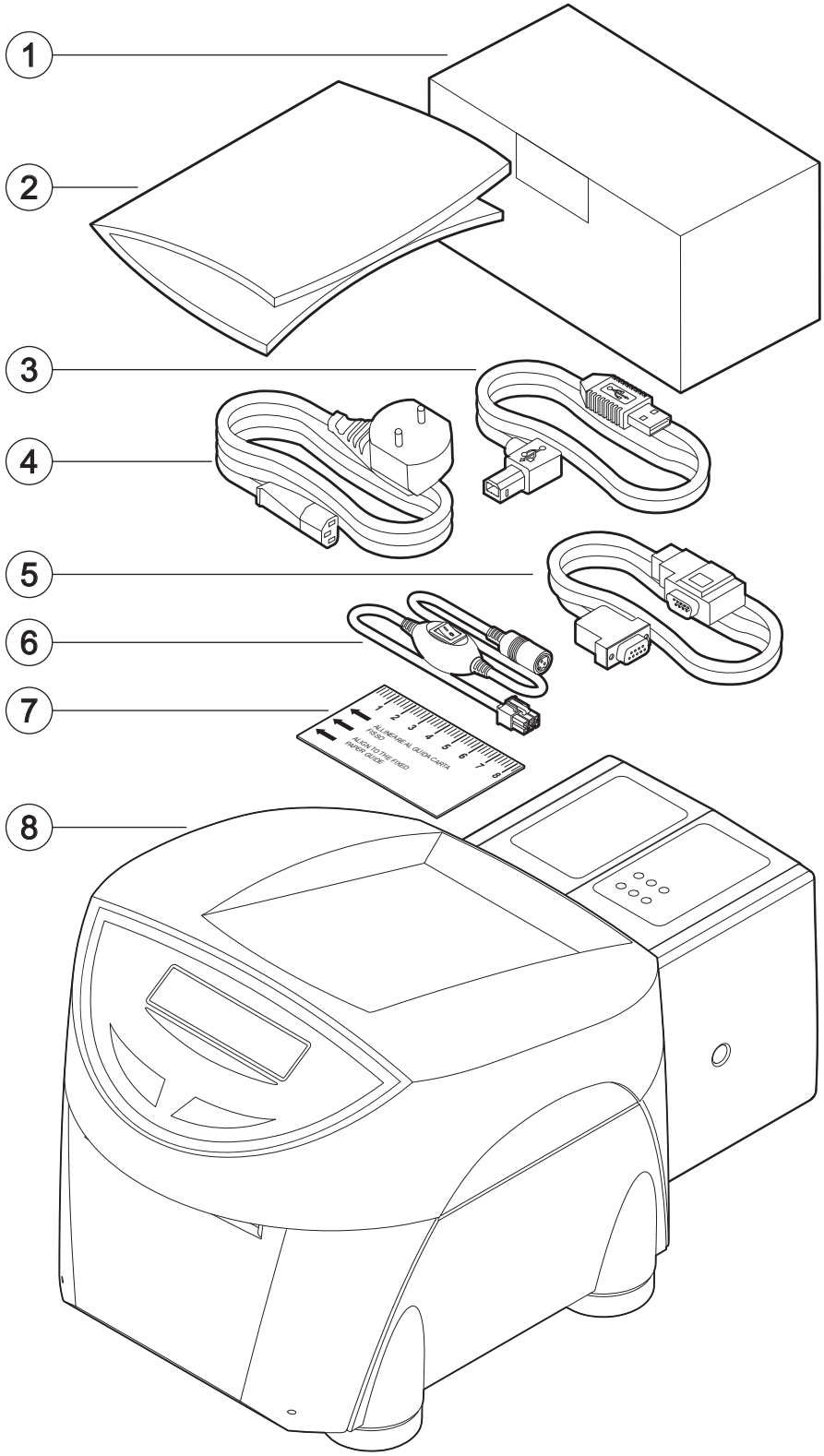
TK302, TK303

1. Power supply
2. Short guide
3. Power supply cable 220V
4. USB cable
5. Serial cable
6. Power supply cable 24V
7. Spacer for paper width <40mm
8. Ruler
9. Device



TK302 (models with triple feeder)

1. Power supply
2. Short guide
3. USB cable
4. Power supply cable 220V
5. Serial cable
6. Power supply cable 24V
7. Ruler
8. Device

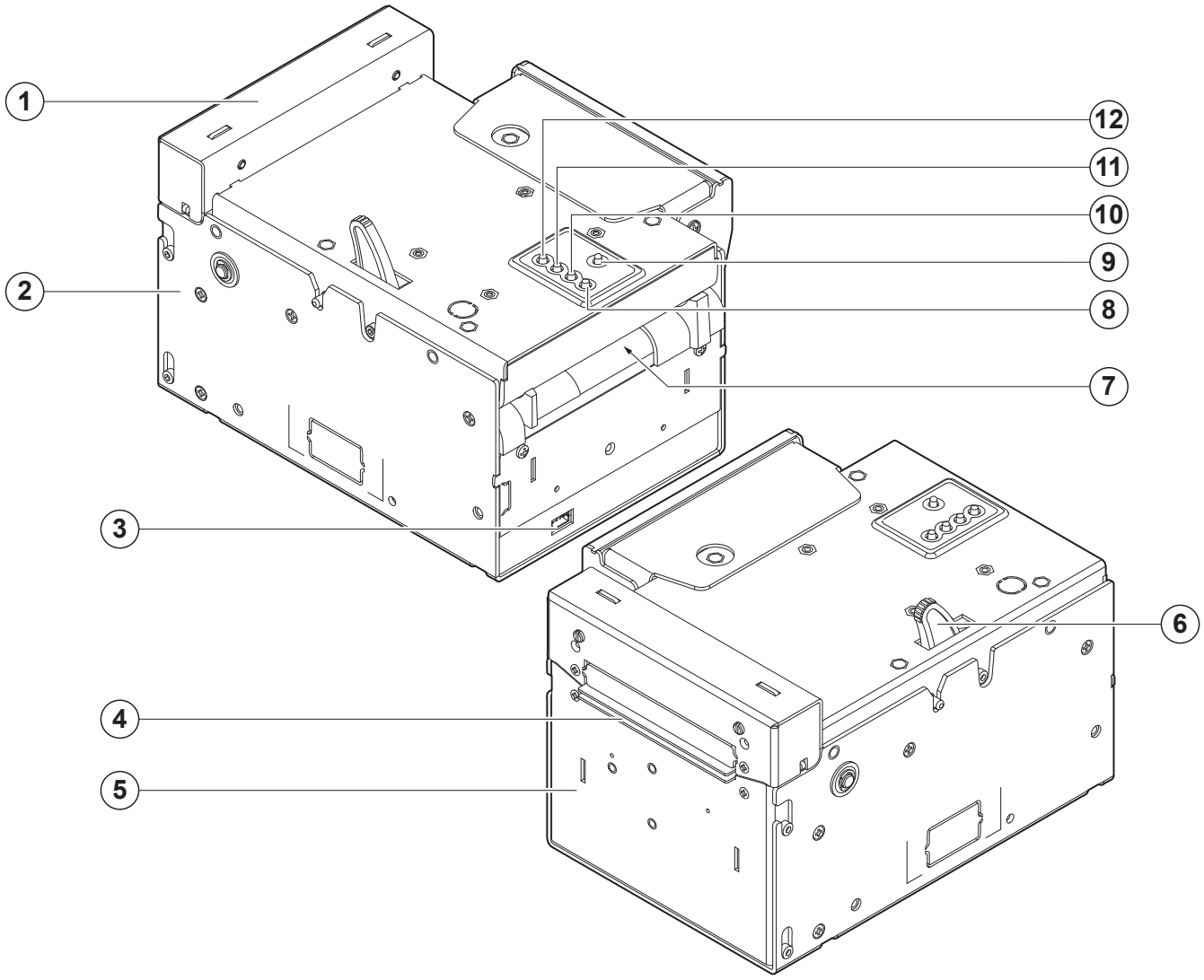


- Open the device packaging.
- Take out the device.
- Take out the rest of the content.
- Keep the box, trays and packing materials in the event the device must be transported/shipped in the future.

2.2 Device components: external views

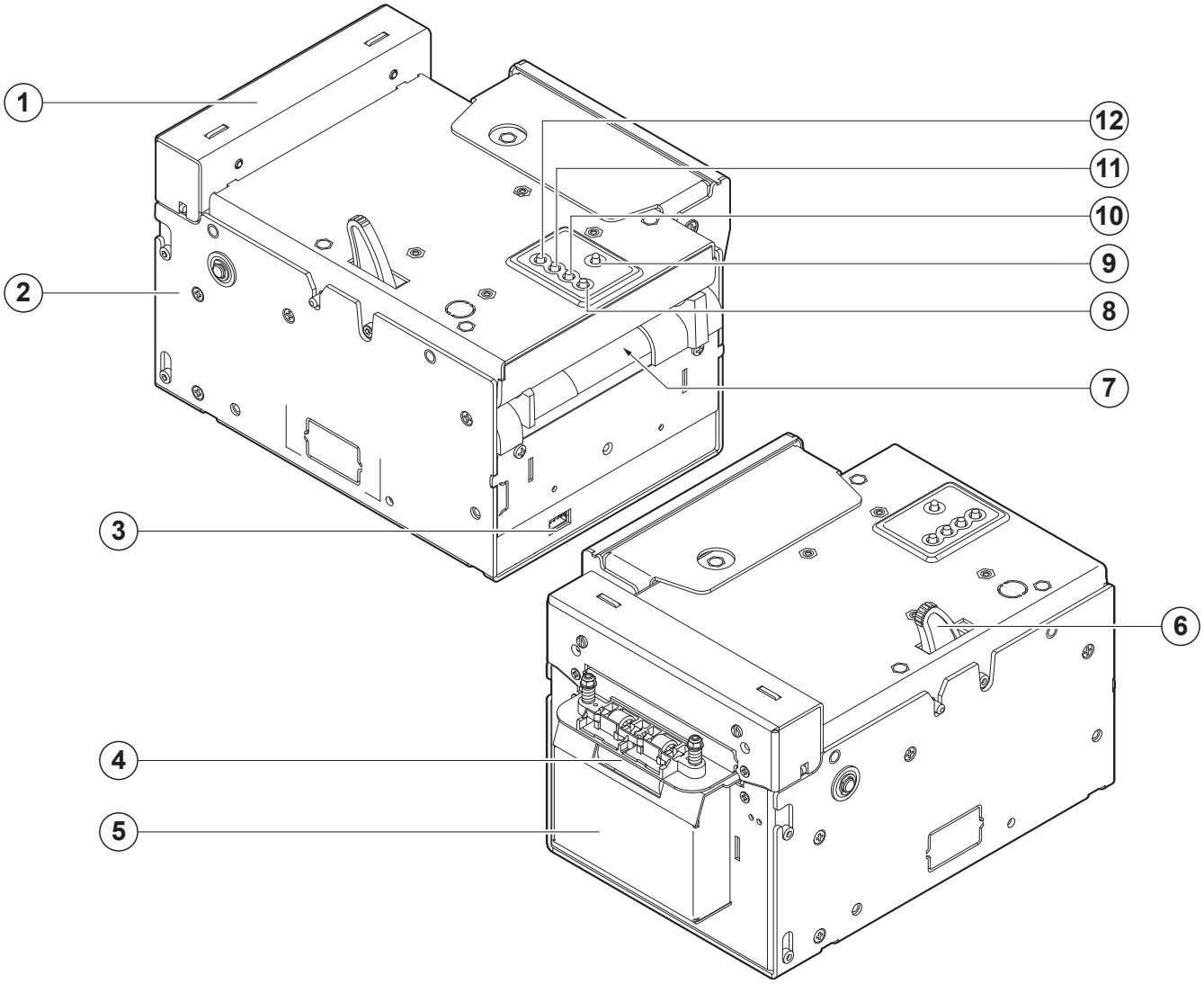
KPM302, KPM303 (standard models)

1. Printing head group
2. Device chassis
3. External near paper end sensor connector
4. Paper out
5. Frontal cover
6. Opening lever for upper cover
7. Paper input
8. S2 key
9. Status led
10. S1 key
11. FORM FEED key
12. LINE FEED key



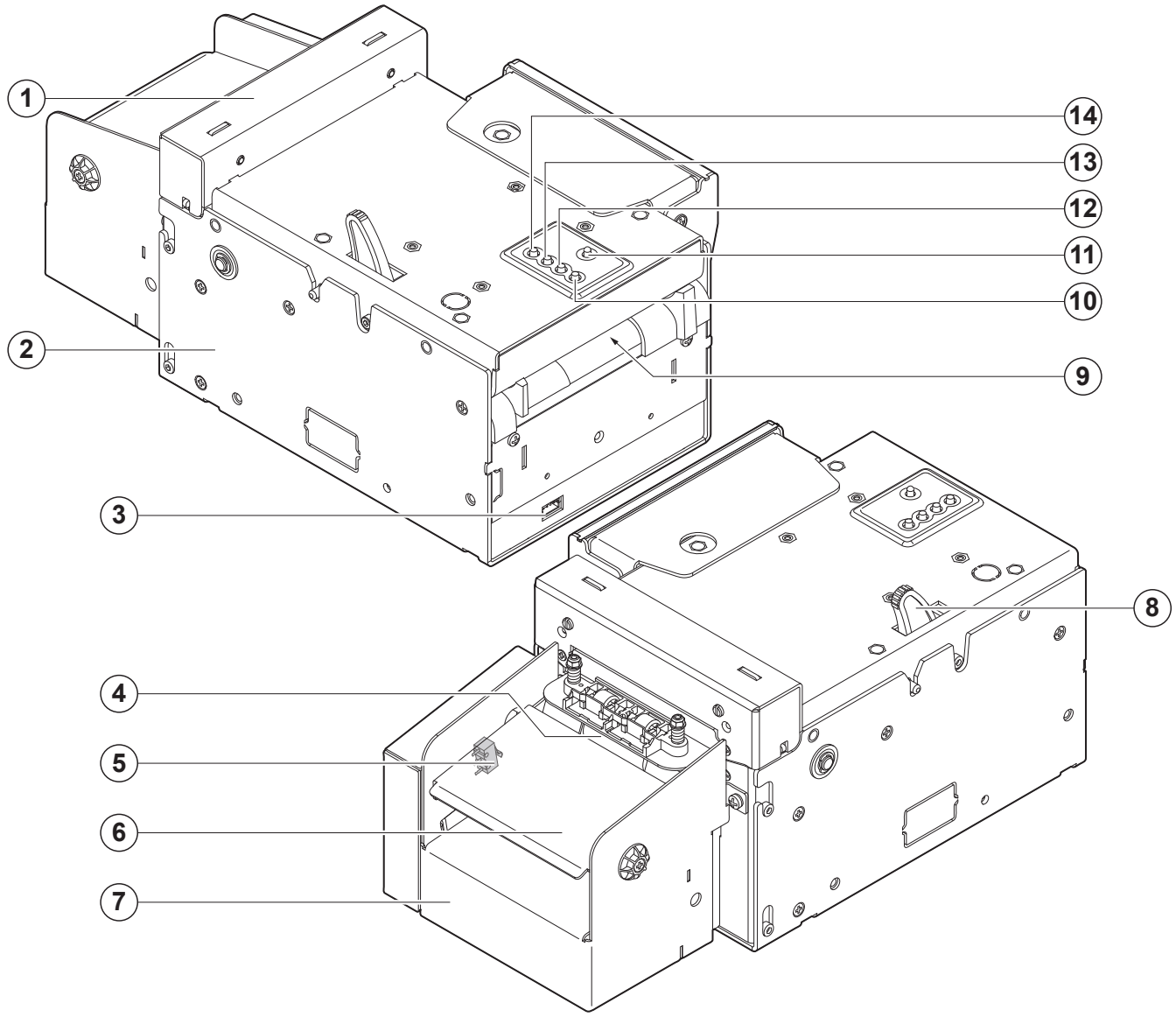
KPM302, KPM303 (models with ejector)

1. Printing head group
2. Device chassis
3. External near paper end sensor connector
4. Paper out
5. Frontal cover with ejector group
6. Opening lever for upper cover
7. Paper input
8. S2 key
9. Status led
10. S1 key
11. FORM FEED key
12. LINE FEED key



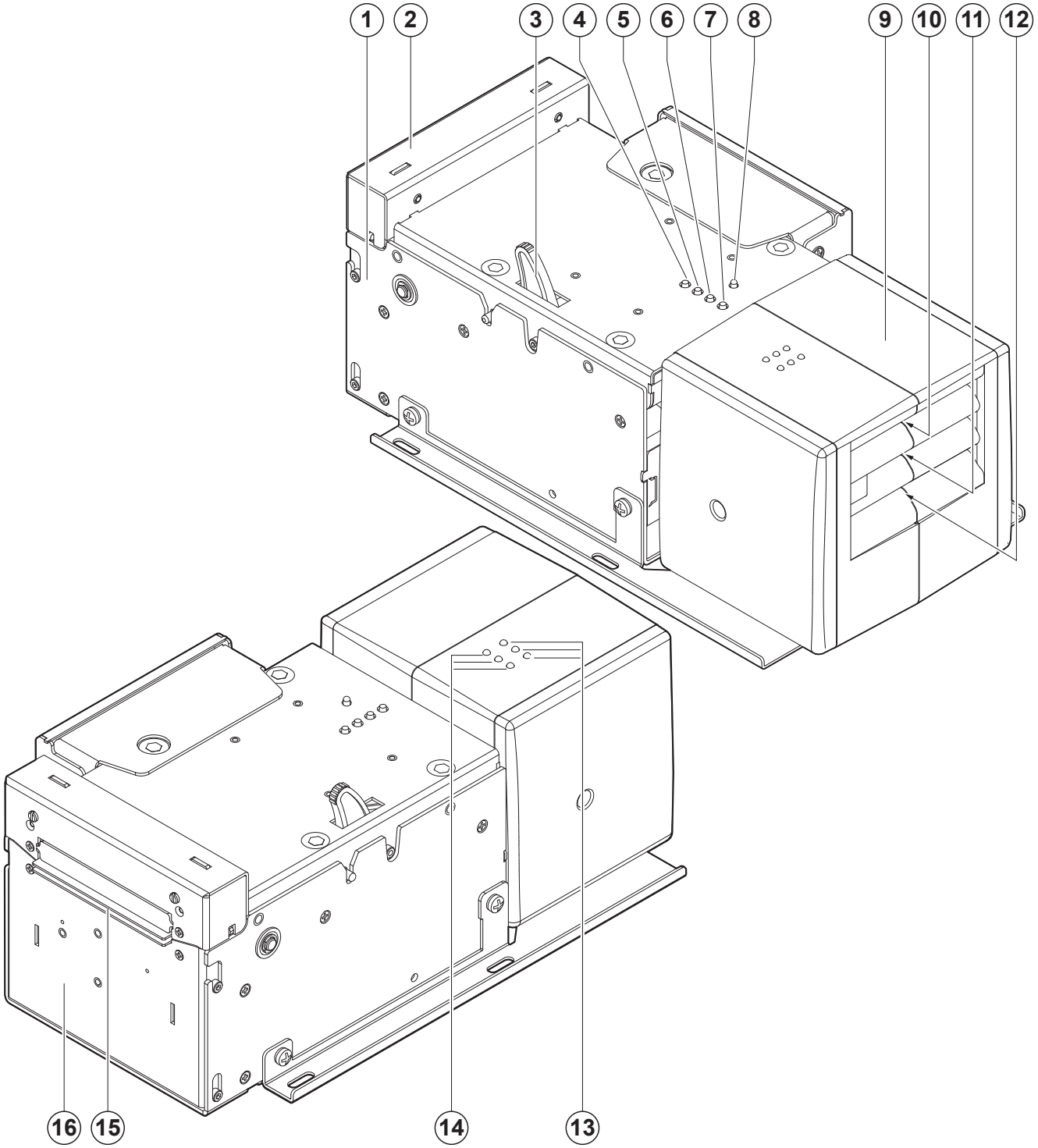
KPM302, KPM303 (models with selector for vertical fixing)

1. Printing head group
2. Device chassis
3. External near paper end sensor connector
4. Paper out
5. Sensor for tilting slide position
6. Tilting slide
7. Frontal cover with selector group
8. Opening lever for upper cover
9. Paper input
10. S2 key
11. Status led
12. S1 key
13. FORM FEED key
14. LINE FEED key



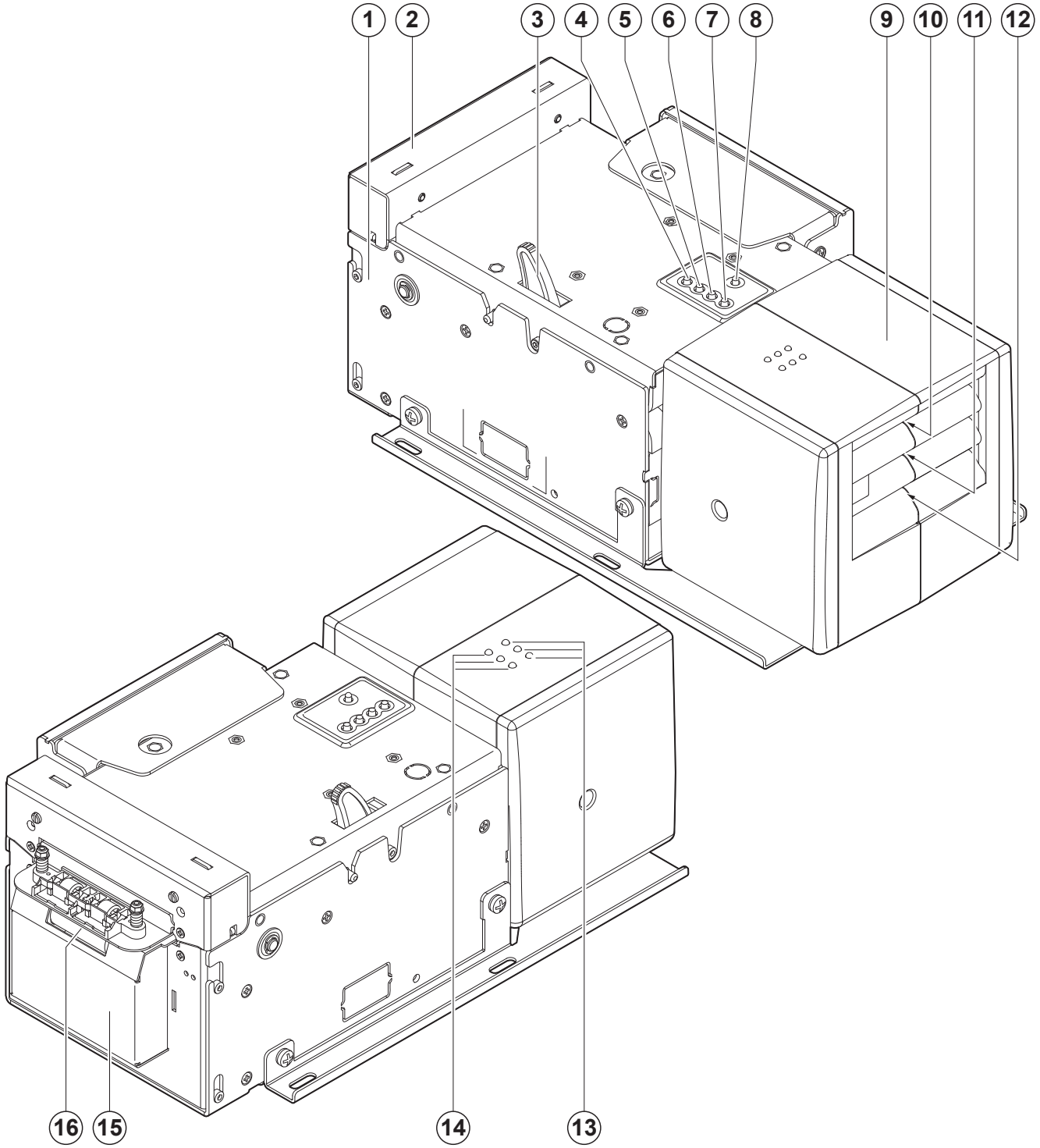
KPM302 (standard models with triple feeder)

1. Device chassis
2. Printing head group
3. Release lever for upper cover
4. LINE FEED key
5. FORM FEED key
6. S1 key
7. S2 key
8. Status led
9. Triple feeder
10. Paper input feeder 1
11. Paper input feeder 2
12. Paper input feeder 3
13. Triple feeder led (green)
14. Triple feeder led (red)
15. Paper out
16. Frontal cover



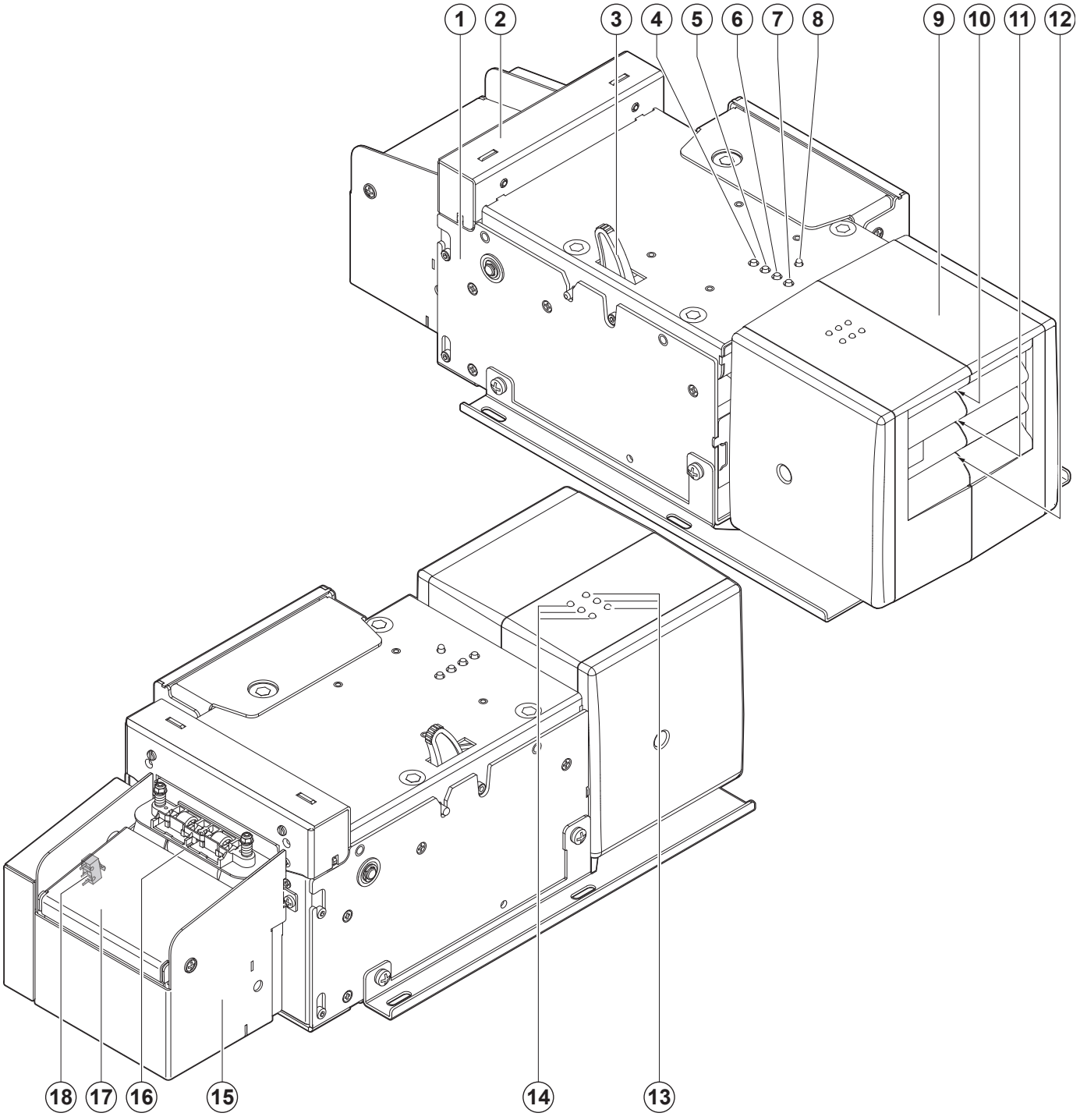
KPM302 (models with triple feeder and ejector)

1. Device chassis
2. Printing head group
3. Release lever for upper cover
4. LINE FEED key
5. FORM FEED key
6. S1 key
7. S2 key
8. Status led
9. Triple feeder
10. Paper input feeder 1
11. Paper input feeder 2
12. Paper input feeder 3
13. Triple feeder led (green)
14. Triple feeder led (red)
15. Frontal cover with ejector group
16. Paper out



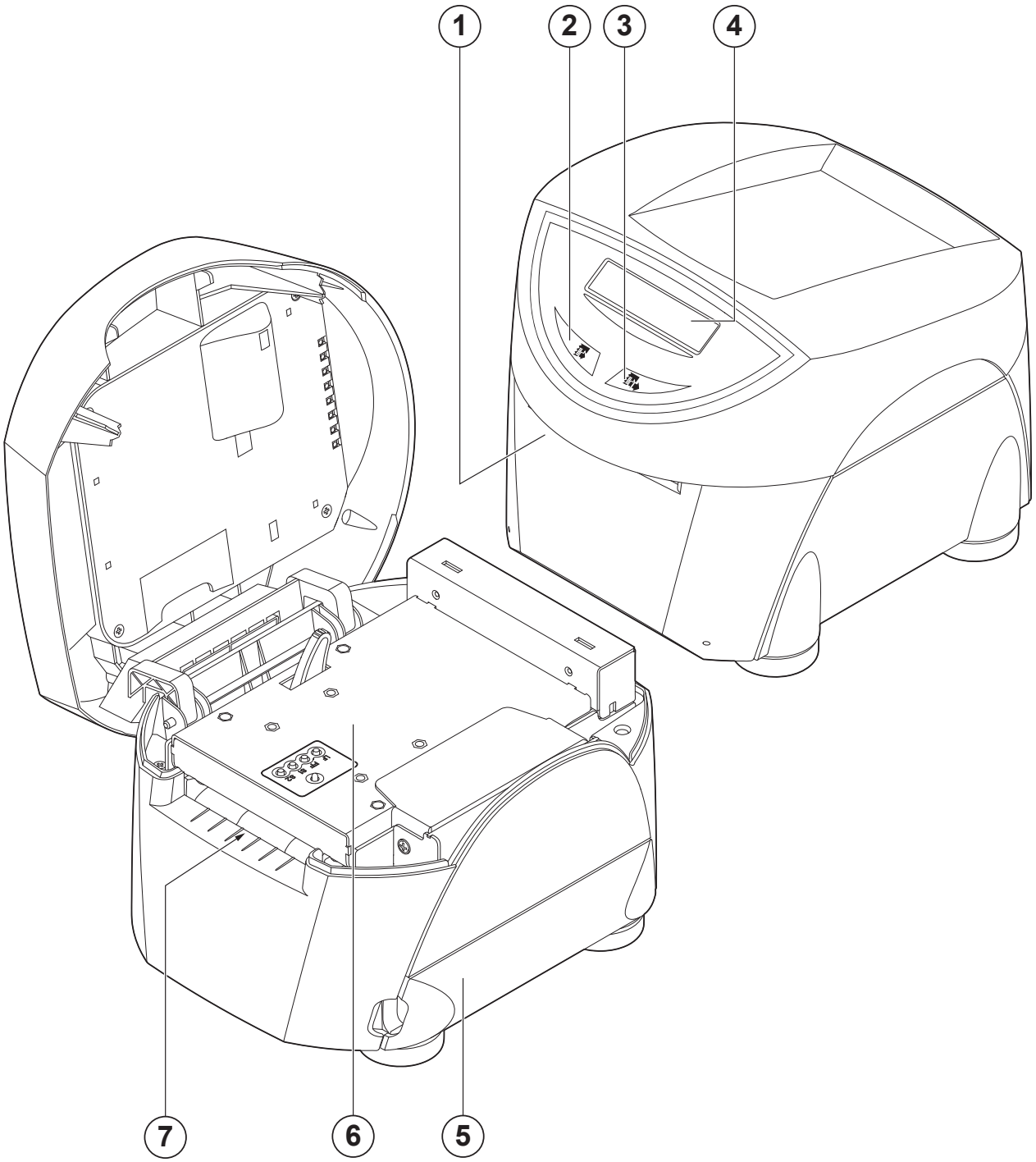
KPM302 (models with triple feeder and selector for horizontal fixing)

1. Device chassis
2. Printing head group
3. Release lever for upper cover
4. LINE FEED key
5. FORM FEED key
6. S1 key
7. S2 key
8. Status led
9. Triple feeder
10. Paper input feeder 1
11. Paper input feeder 2
12. Paper input feeder 3
13. Triple feeder led (green)
14. Triple feeder led (red)
15. Frontal cover with selector group
16. Paper out
17. Tilting slide
18. Sensor for tilting slide position



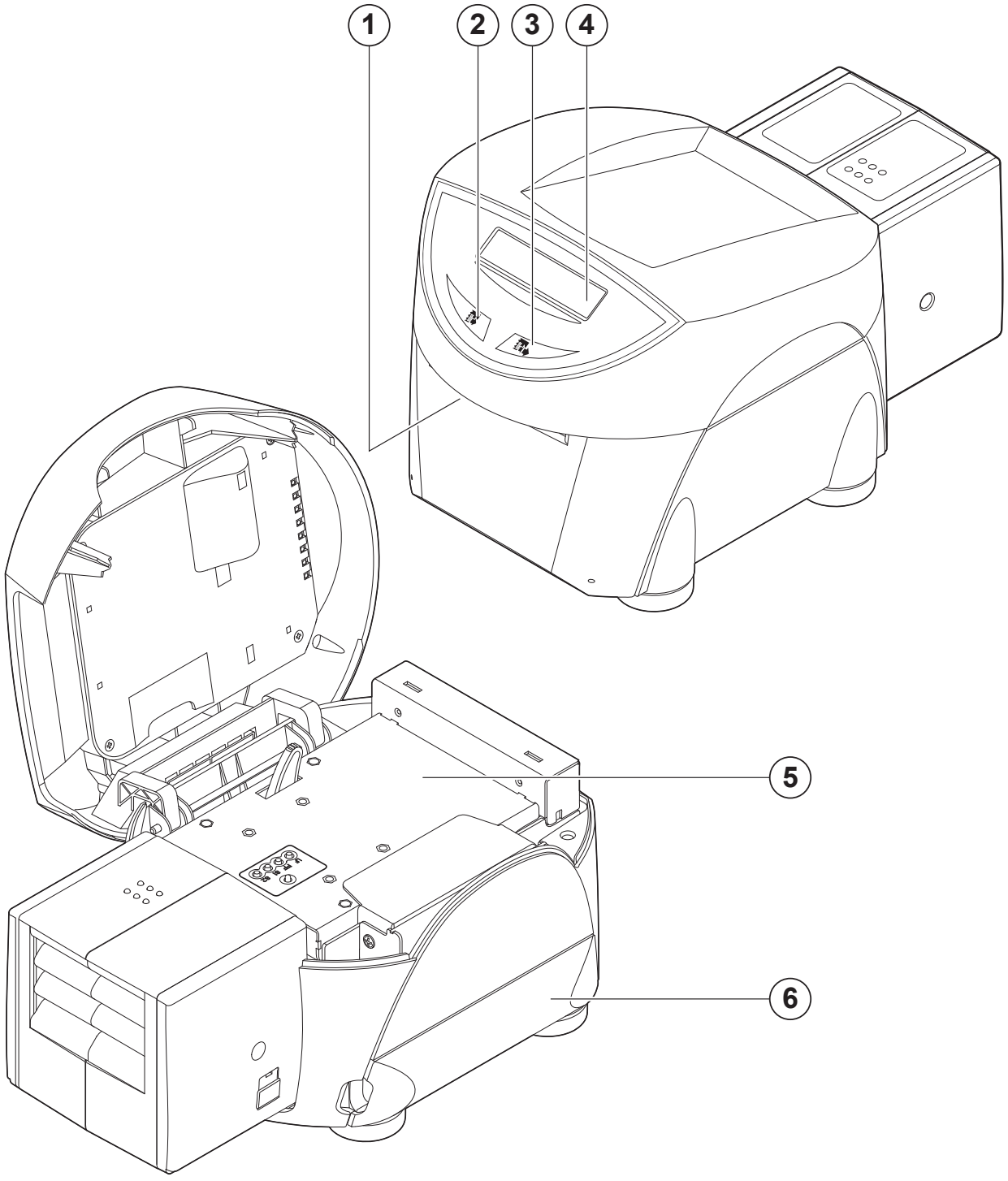
TK302, TK303

1. Paper out
2. FORM FEED key
3. LINE FEED key
4. Display
5. Connectors cover
6. Internal printer (see previous pages)
7. Paper input



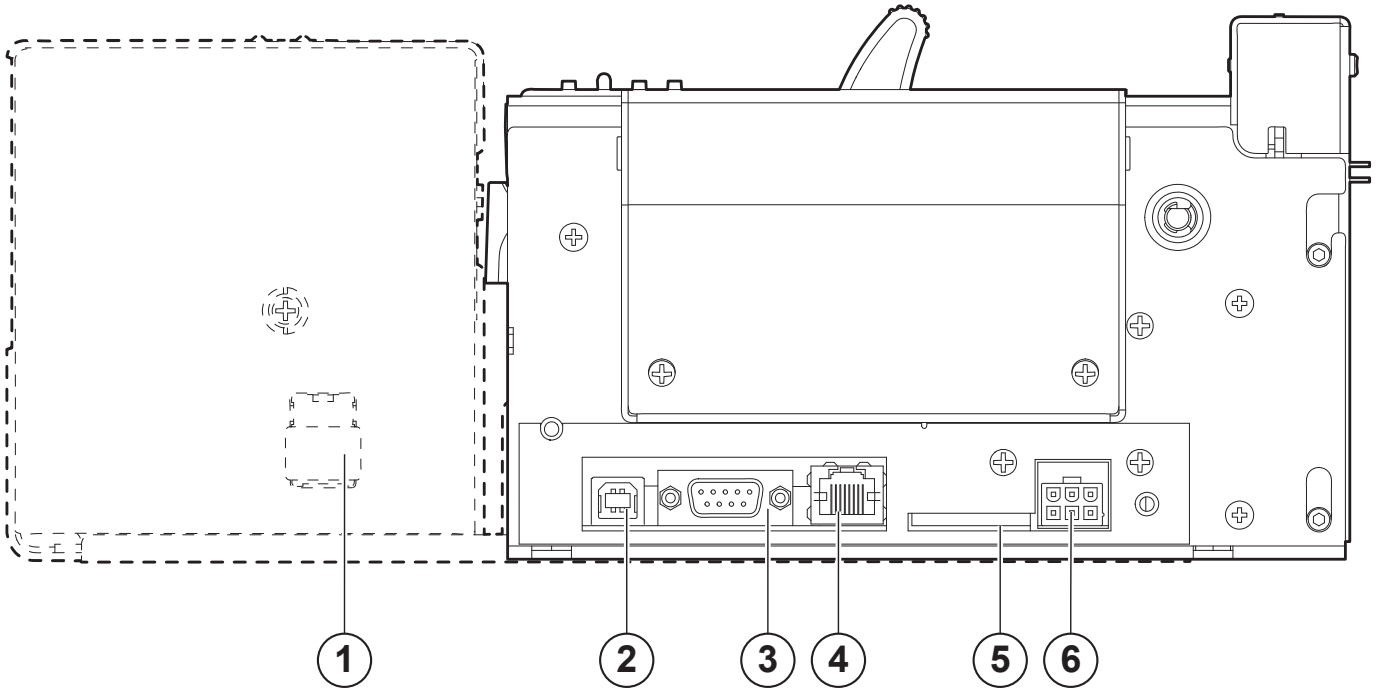
TK302 (models with triple feeder)

1. Paper out
2. FORM FEED key
3. LINE FEED key
4. Display
5. Internal printer with triple feeder (see previous pages)
6. Connectors cover



2.3 Device components: connector view

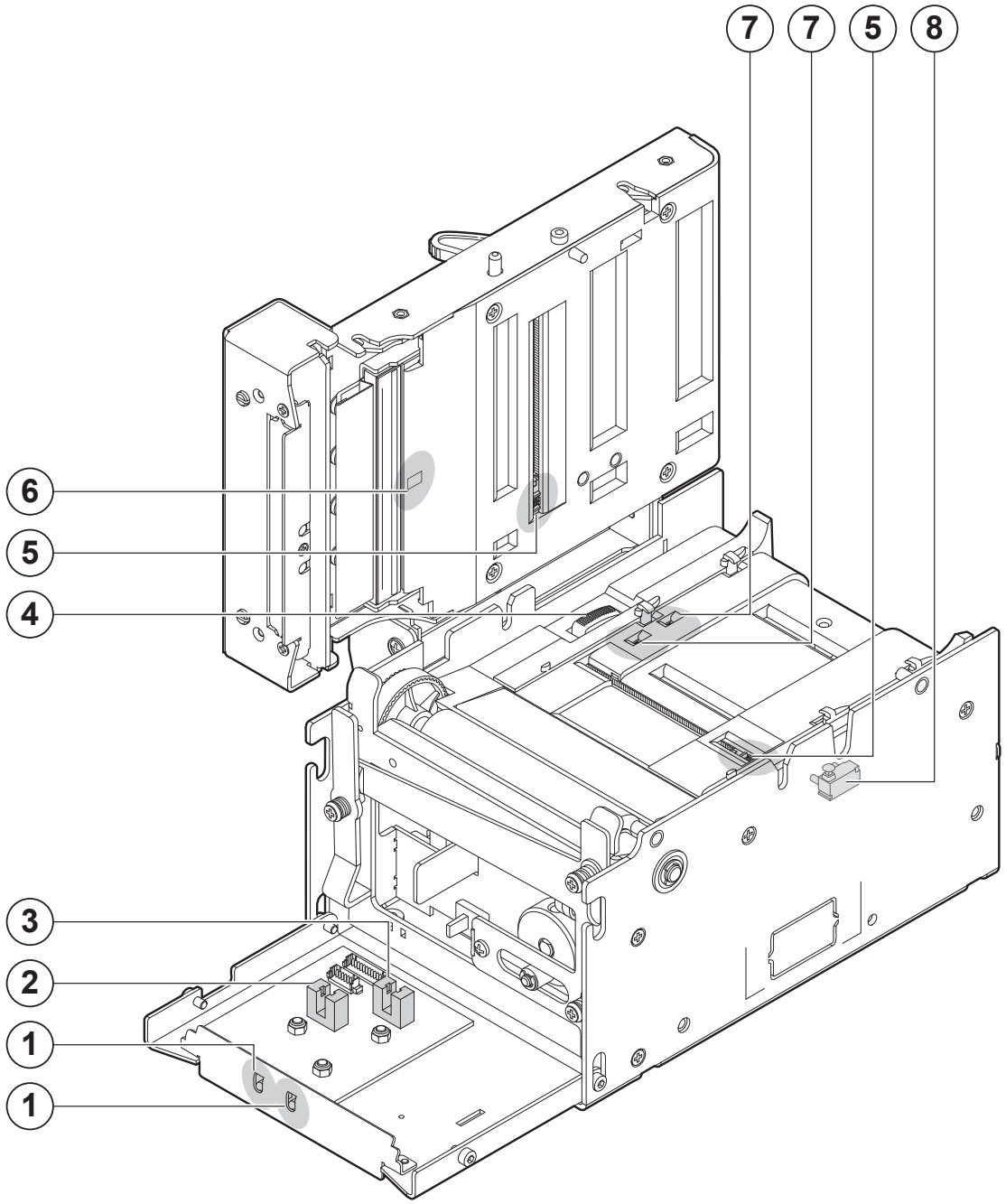
1. Cover for triple feeder connectors (for models with triple feeder)
2. USB port
3. RS232 serial port
4. ETHERNET port
5. Slot for SD/MMC card
6. Power supply port



NOTE: For ease of reference, for some models is represented only the internal printer group without the external plastic chassis or triple feeder.

2.4 Device components: internal view

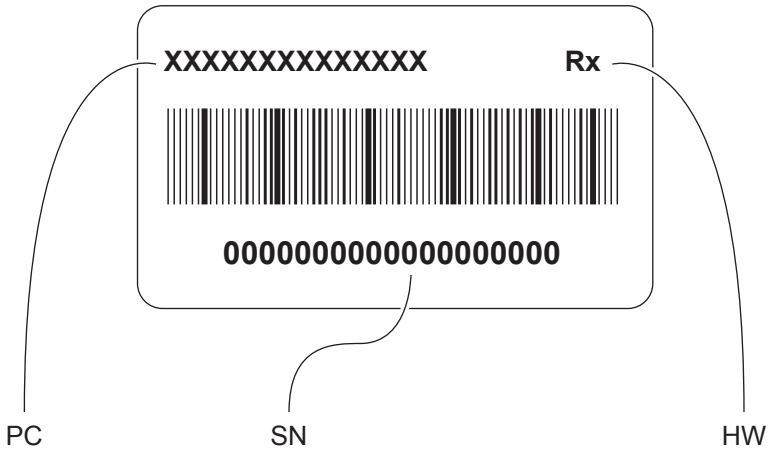
1. Paper out presence
2. Opening/closing front cover sensor
3. Cutter position sensor
4. Unlocking button for mobile paper guide
5. Mobile sensors for notch
6. Head temperature sensor
7. Sensor of paper presence
8. Opening/closing upper cover sensor



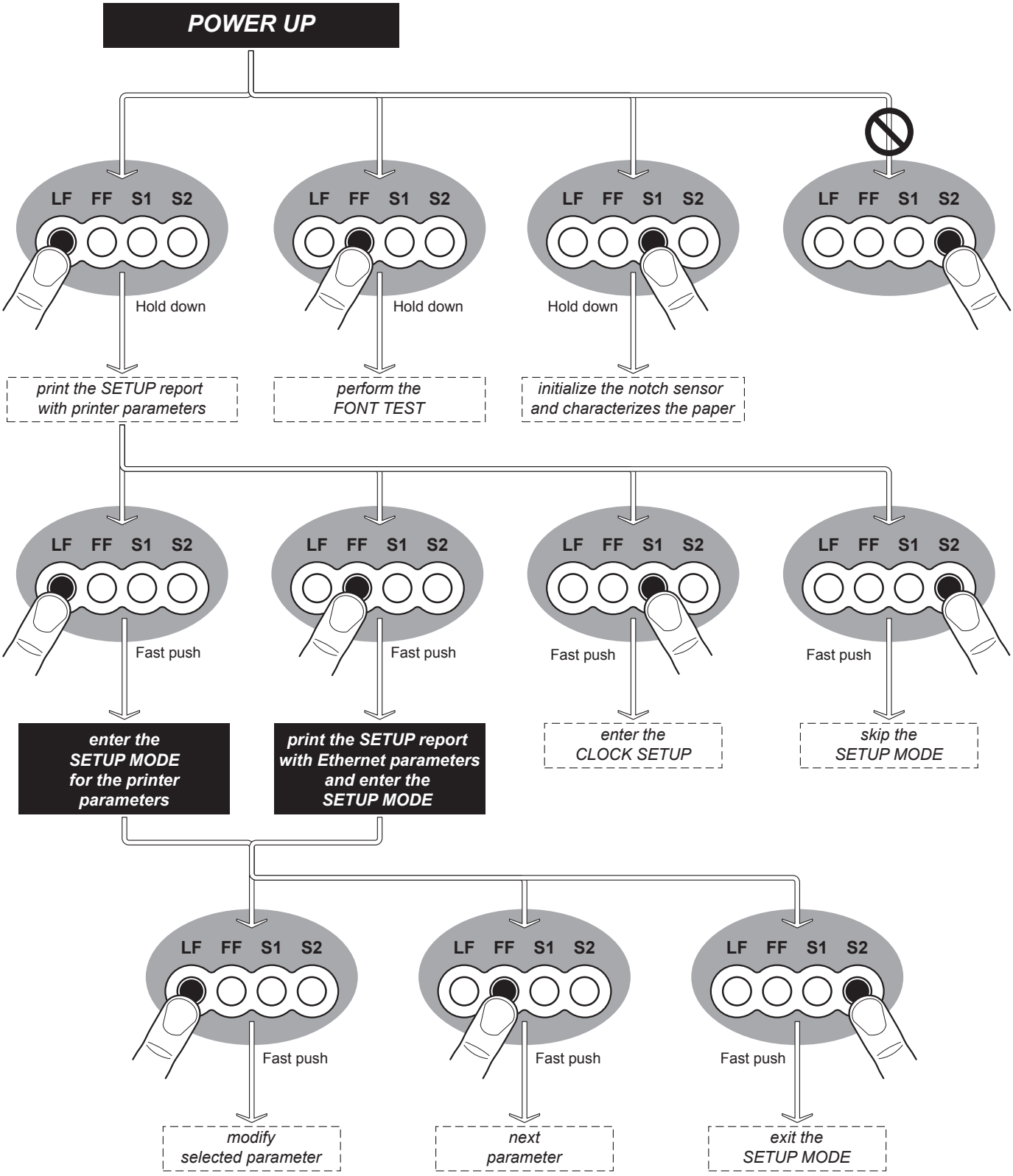
NOTE: For ease of reference, for some models is represented only the standard model of the internal printer group without the external plastic chassis or triple feeder.

2.5 Device labels

PC = Product code (14 digits)
SN = Serial number
HW = Hardware release



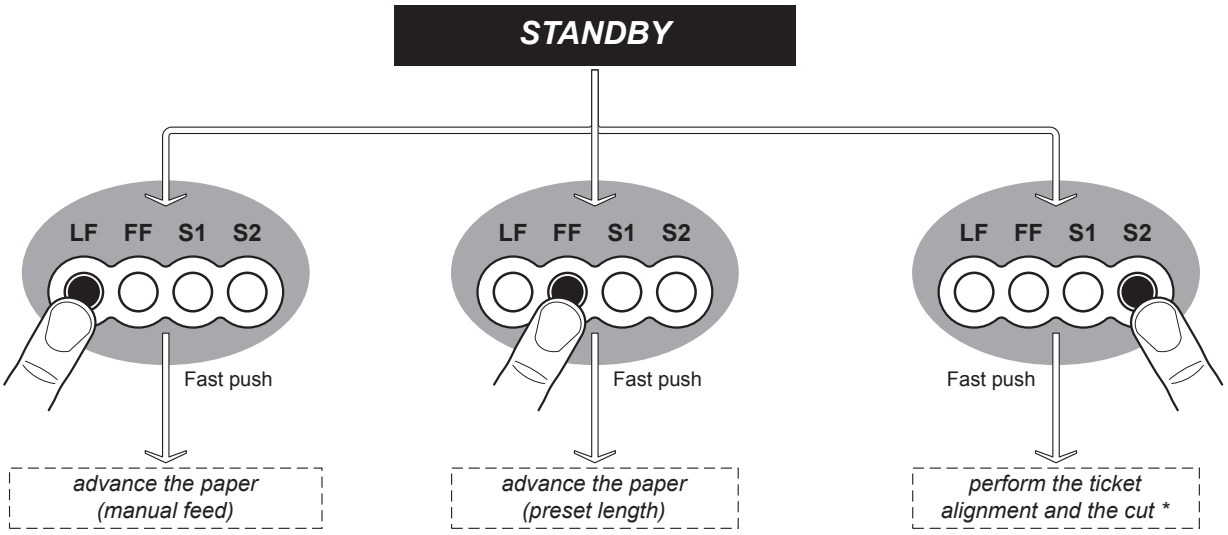
2.6 Key functions: power up



NOTE:
During power-up, do not press the S2 key because the device enter in a test modality that becomes unusable by keys; if this event occurs then turn off the device and turn on without pressing any key.

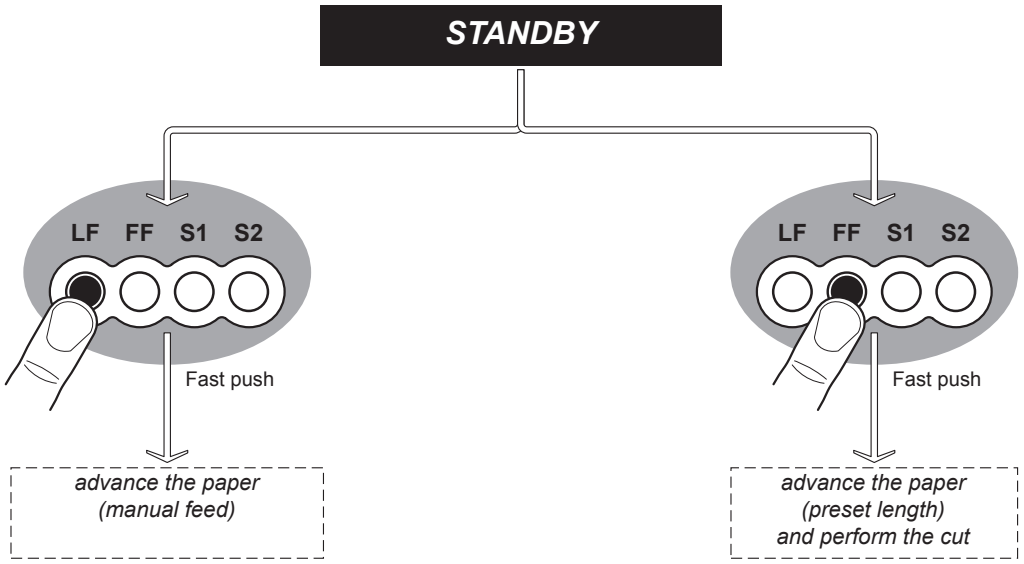
2.7 Key functions: standby

KPM302, KPM303



NOTE:
(*) Only with alignment enabled

TK302, TK303



2.8 Status led flashes

The Status led indicates hardware status of device. Given in the table below are the various led signals and the corresponding device status.

STATUS LED			DESCRIPTION
-	○	***OFF***	DEVICE OFF
GREEN	●	***ON***	DEVICE ON: NO ERROR
GREEN COMMUNICATION STATUS	●	***x 1***	RECEIVE DATA
		x 2	RECEPTION ERRORS (PARITY, FRAME ERROR, OVERRUN ERROR)
		x 3	COMMAND NOT RECOGNIZED
		x 4	COMMAND RECEPTION TIME OUT
YELLOW RECOVERABLE ERROR	●	***x 2***	HEADING OVER TEMPERATURE
		x 3	PAPER END
		x 4	PAPER JAM
		x 5	POWER SUPPLY VOLTAGE INCORRECT
		x 6	COVER OPEN
RED UNRECOVERABLE ERROR	●	***3 x***	RAM ERROR
		4 x	EEPROM ERROR
		5 x	CUTTER ERROR
		6 x	FRONTAL COVER OPEN

2.9 Triple feeder led flashes

Models with triple feeder

The led panel of triple feeder is comprised of two led (one of green colour and one of red colour) for each of the three paper input feeder.
The led indicate the triple feeder status and the paper status. Given in the table below are the various led signals and the corresponding triple feeder status.

STATUS LED			DESCRIPTION
RED PAPER END WARNING		***OFF***	PAPER PRESENCE
		ON	NEAR PAPER END
GREEN TRIPLE FEEDER STATUS		***OFF***	NO PAPER OR PAPER IN PARKING SPACE [1]
		ON	PAPER LOADED
			PAPER END DURING PRINTING
			PAPER JAM

NOTE:
[1] : The paper is in “parking space” when it is present on the entrance of feeder but it is not loaded into the printer.

2.10 Messages on display

The display indicates the hardware status of device. Given in the table below are the various display messages and the corresponding device status.

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PRINTER READY 01/01/14 12:00:00 Device ON: no error	RECEIVING DATA SPOOLING..... Receive data
RS232 RX ERROR CHECK RS232 SETTINGS Reception errors (parity, frame error, overrun error)	COMMAND ERROR COMMAND NOT FOUND Command not recognized
COMMAND ERROR COMMAND NOT FINISH Command reception time out	PRINTHEAD OVERTEMP WAIT COOLING..... Heading over temperature
END PAPER PLEASE INSERT PAPER Paper end	PAPER JAM CLEAR PAPER PATH Paper jam
POWER VOLTAGE ERROR CHECK POWER SUPPLIER Power supply voltage incorrect	COVER ERROR CLOSE COVERS Cover open
RAM ERROR POWER ON AGAIN RAM error	EEPROM ERROR POWER ON AGAIN EEPROM error
CUTTER ERROR OPEN COVER AND CLEAR Cutter error	CUTTER ERROR CUTTER COVER OPEN! Cutter cover open
PRINT TICKET ERROR! CHECK TICKETS PATH Notch alignment error	

3 INSTALLATION

3.1 Fixing brackets

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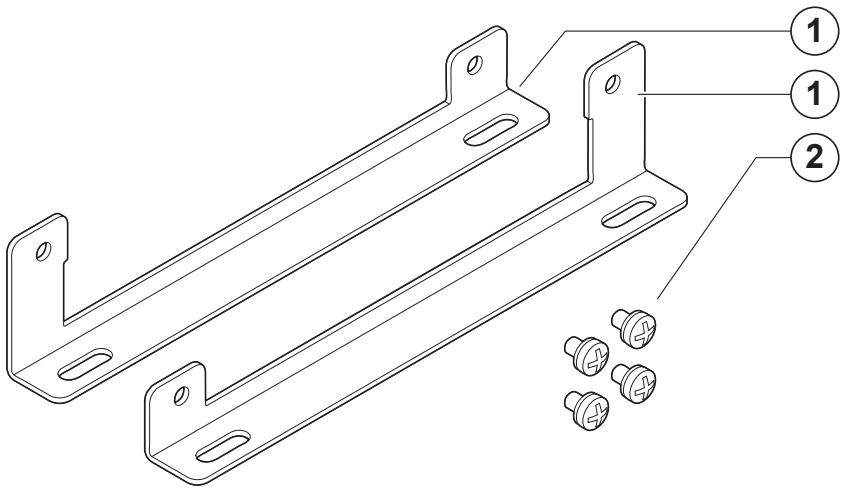
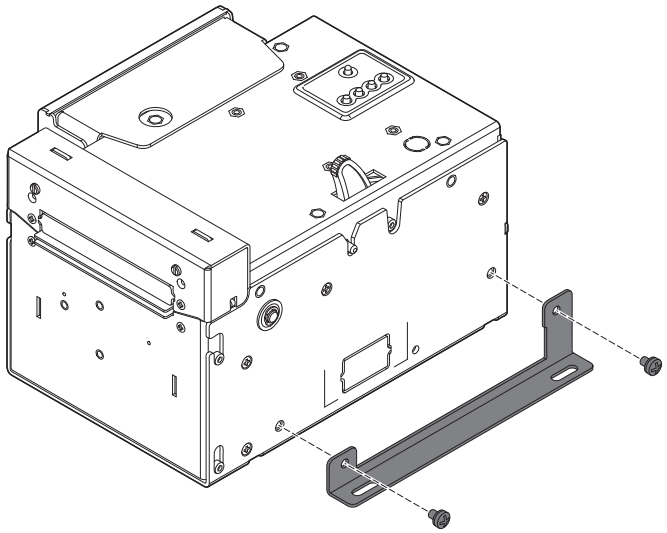
The device includes a kit for the assembly of two additional fixing brackets (see following figure).

The kit contains:
1. Two fixing brackets;
2. No.4 fixing screws.



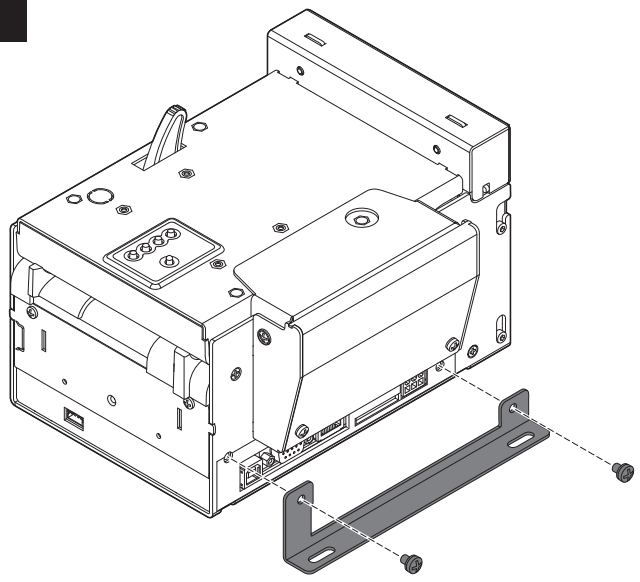
For the assembly procedure, proceed as follows:

1



Fix the bracket on
the right side of the device.

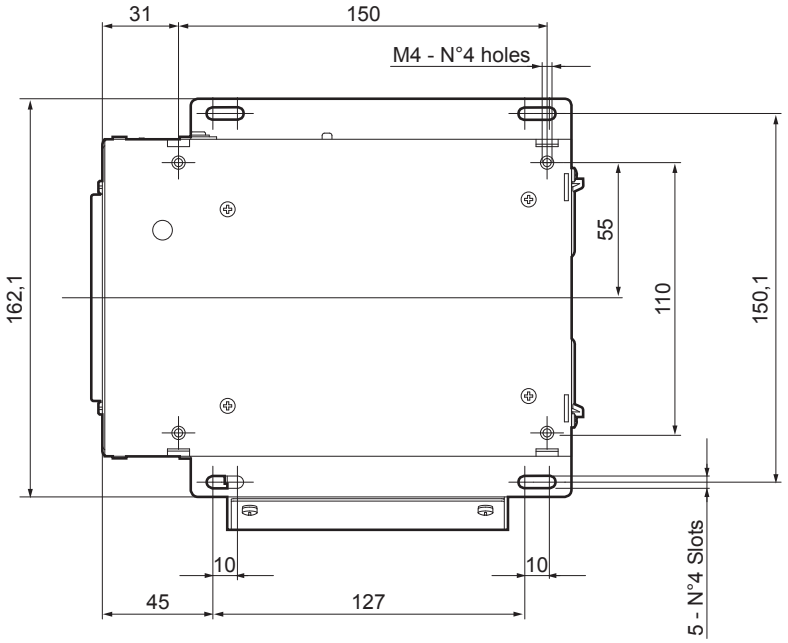
2

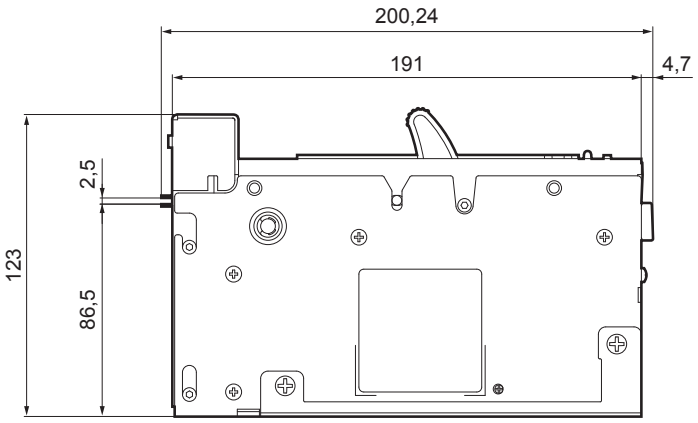


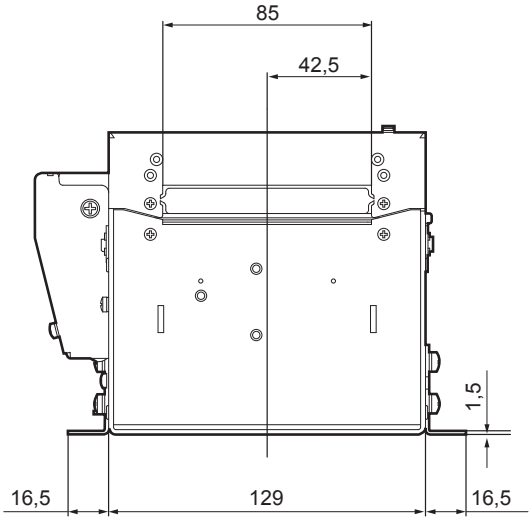
Fix the bracket on
the left side of the device.

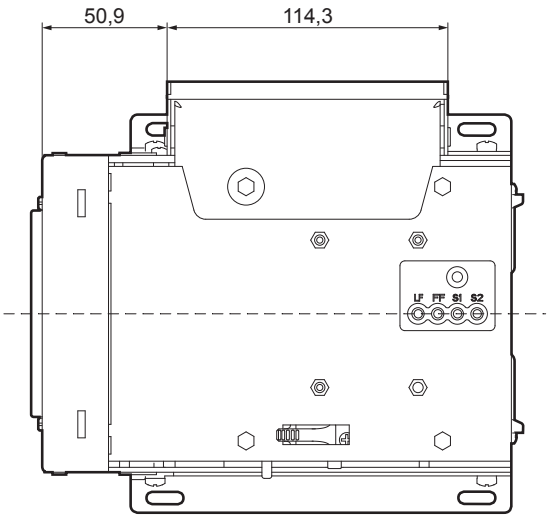
The following figures show the device overall dimensions with the two additional brackets.

KPM302, KPM303 (standard configuration)



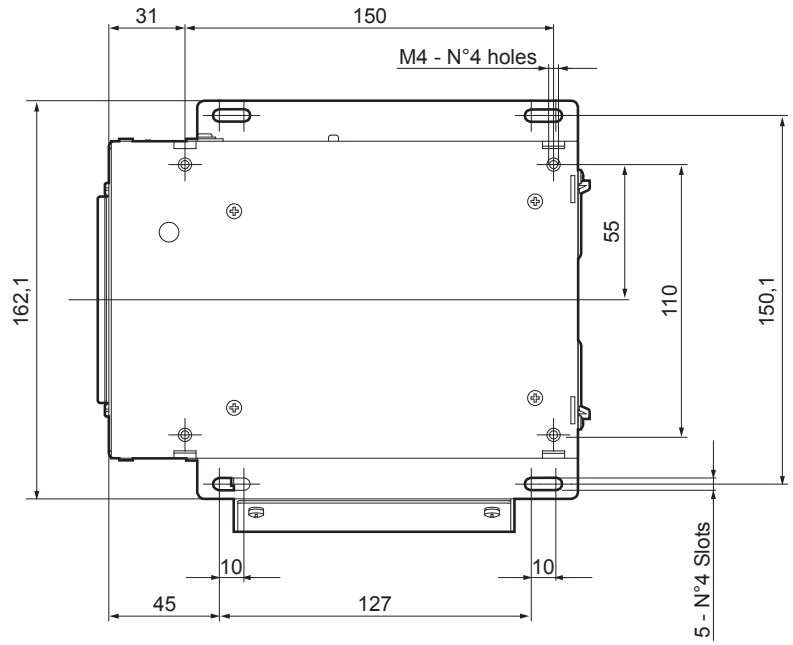


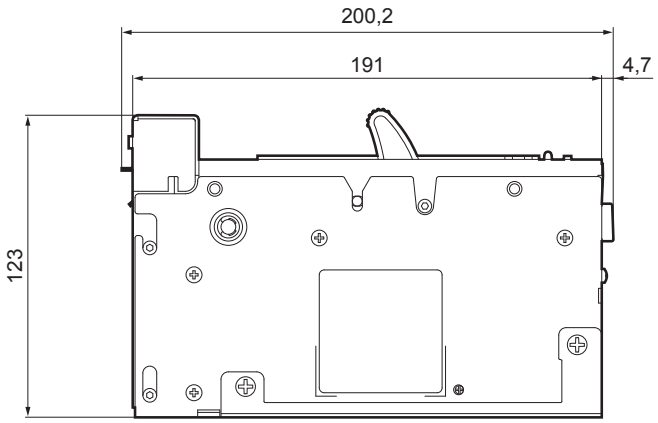


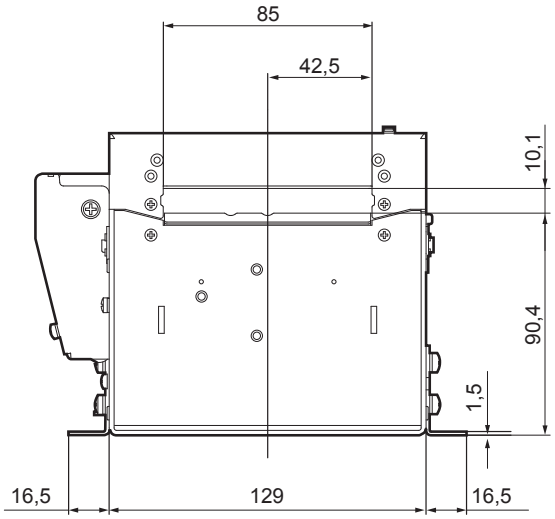


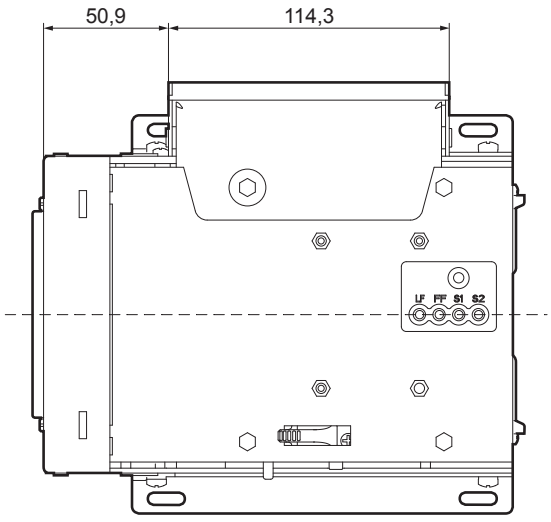
NOTE: All the dimensions shown in figures are in millimetres.

KPM302, KPM303 (CUT&DROP configuration)



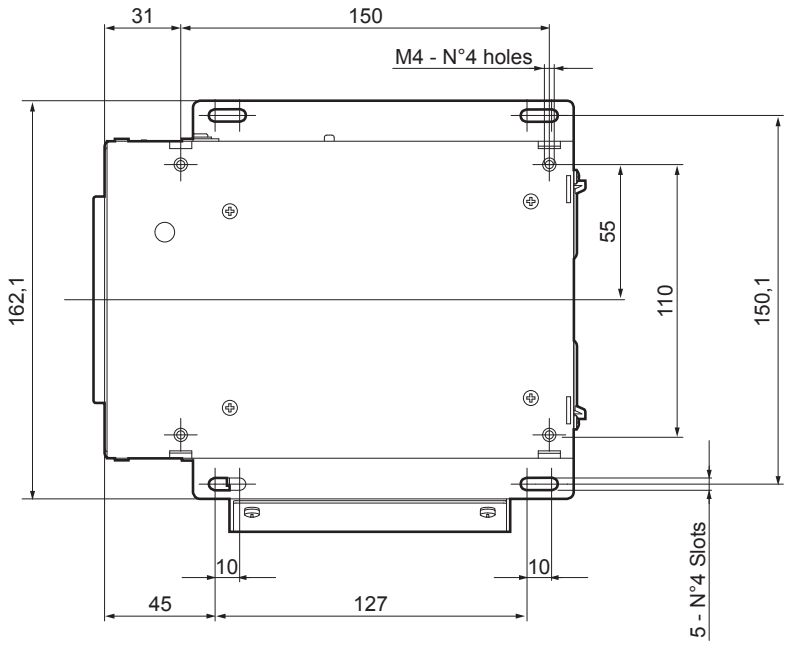


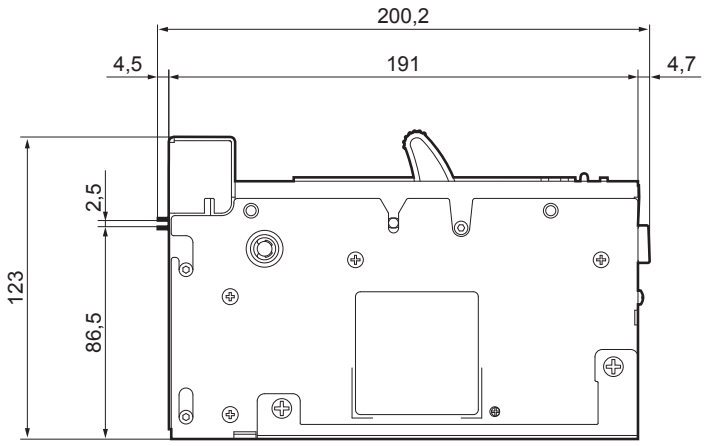


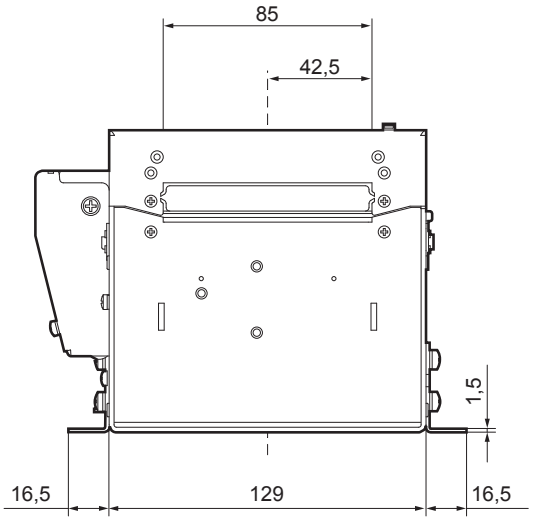


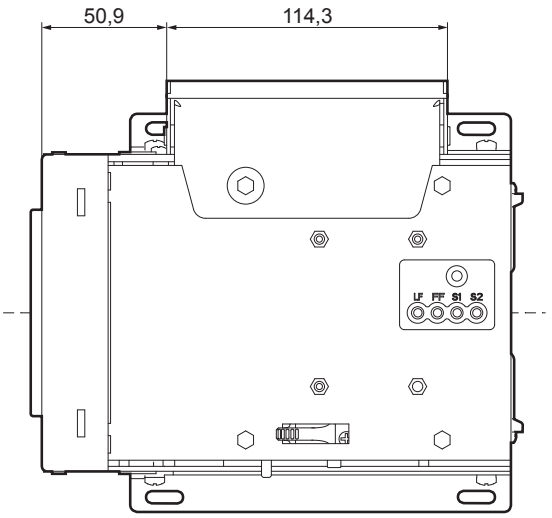
NOTE: All the dimensions shown in figures are in millimetres.

KPM302, KPM303 (BURSTER configuration)









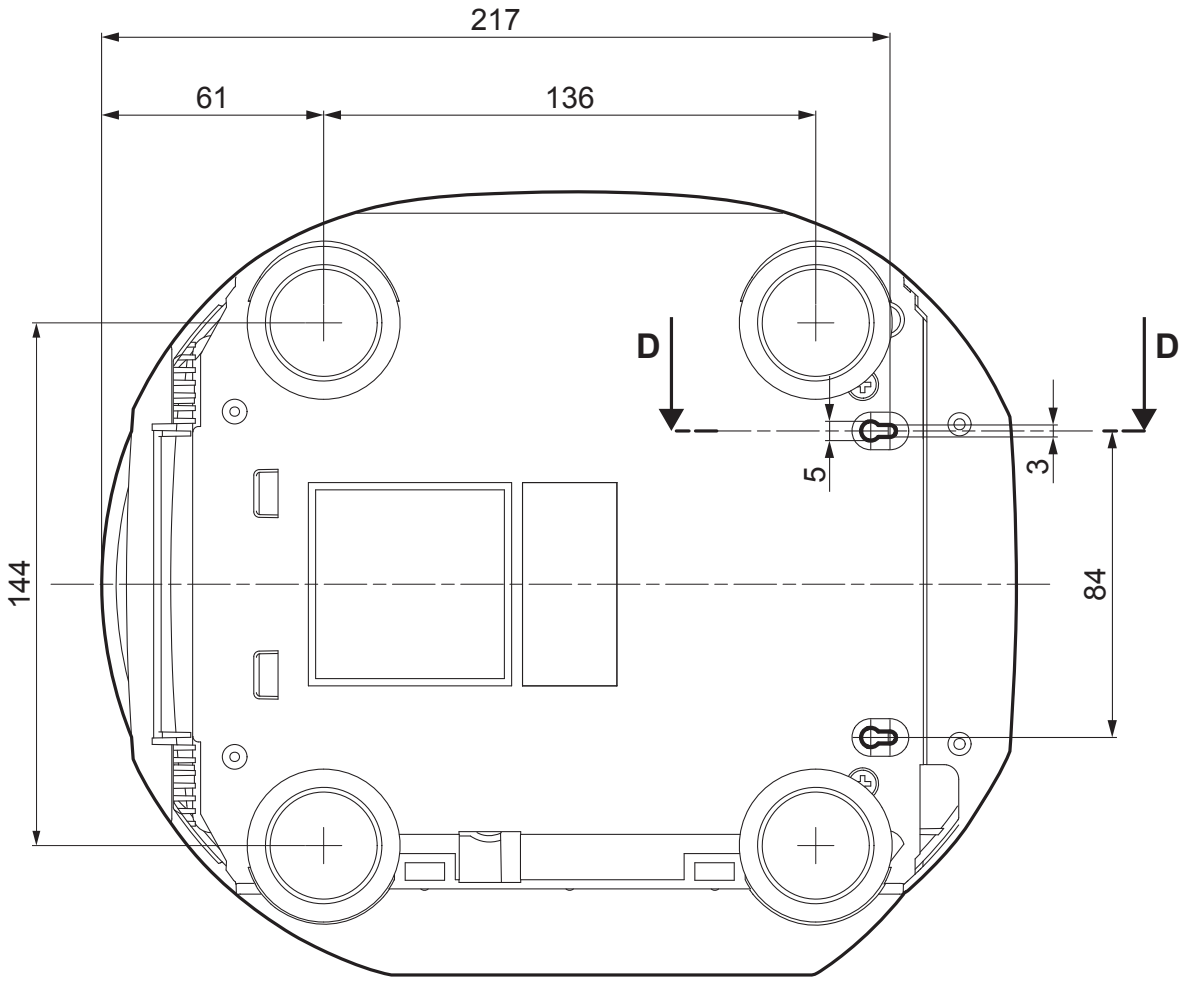
NOTE: All the dimensions shown in figures are in millimetres.

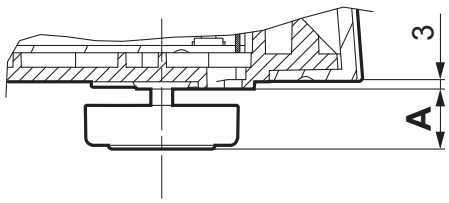
3.2 Fixing slots

TK302, TK303

The device is provided with two slots for the mounting of the machine on desk.

The slots are placed at the bottom of the machine (see following figure)





SECTION D-D

The height A shown in the previous figure varies according to the accessory mounted to the device (see Chapter 9).

Arrange the desk with two fixing pins according to the measures shown in the previous page and the values of the height A listed in the table below.

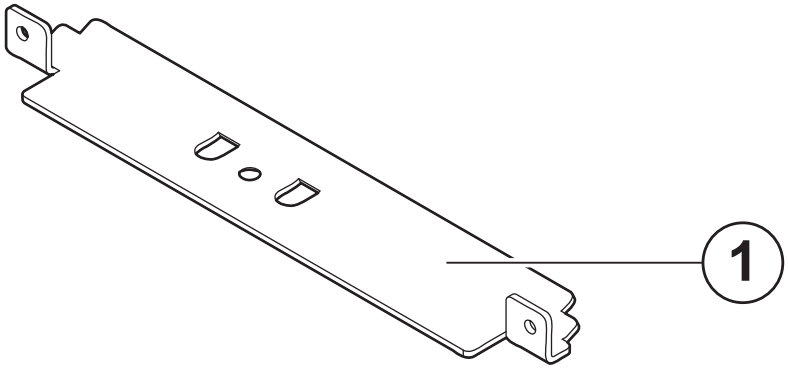
CONFIGURATION	HEIGHT
Device	12.5 mm
Device with paper roll holder (cod.974BA010000312)	16 mm
Device with plastic ticket tray (cod.976BD010000001)	18 mm
Device with metallic ticket tray (cod.976BB010000003, cod.976BB010000002)	14.5 mm

3.3 BURSTER configuration

KPM302 (standard models and models with triple feeder)
KPM303 (standard models)

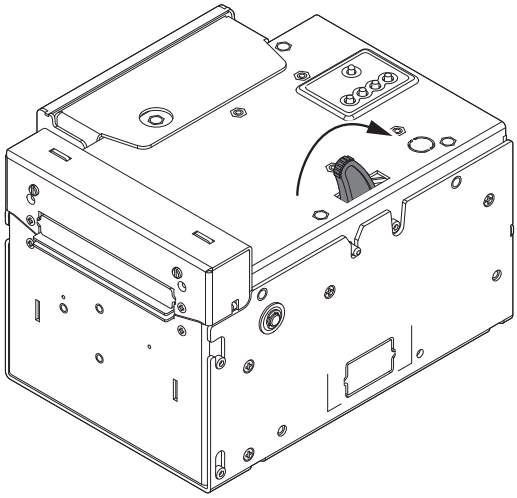
The device includes a kit for the BURSTER configuration (see the following figure).

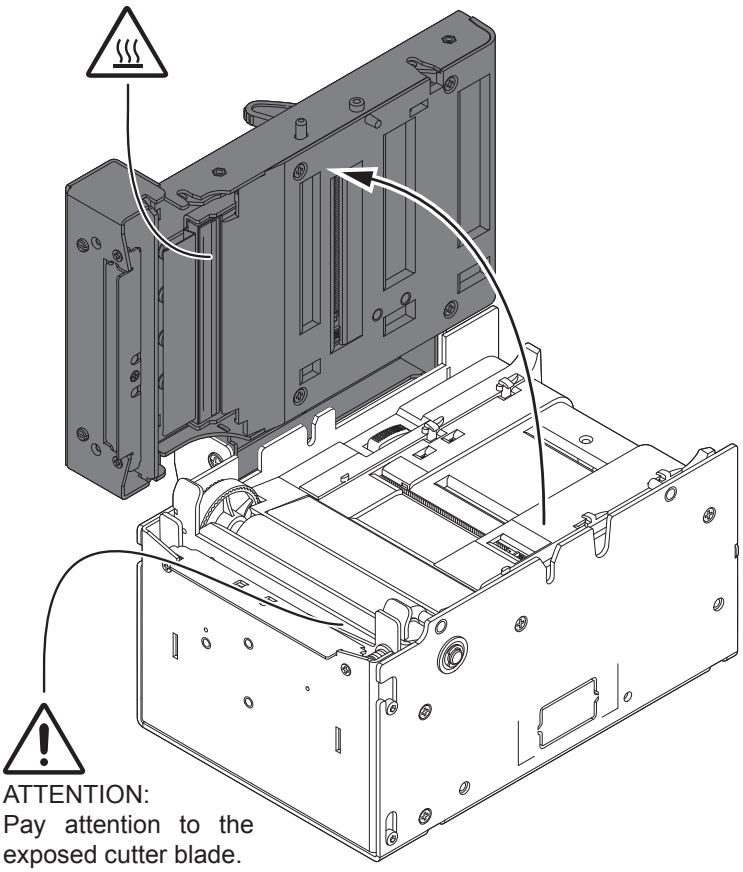
The kit contains:
1. Upper paper out feed mouth.



For the assembly procedure, proceed as follows:

1

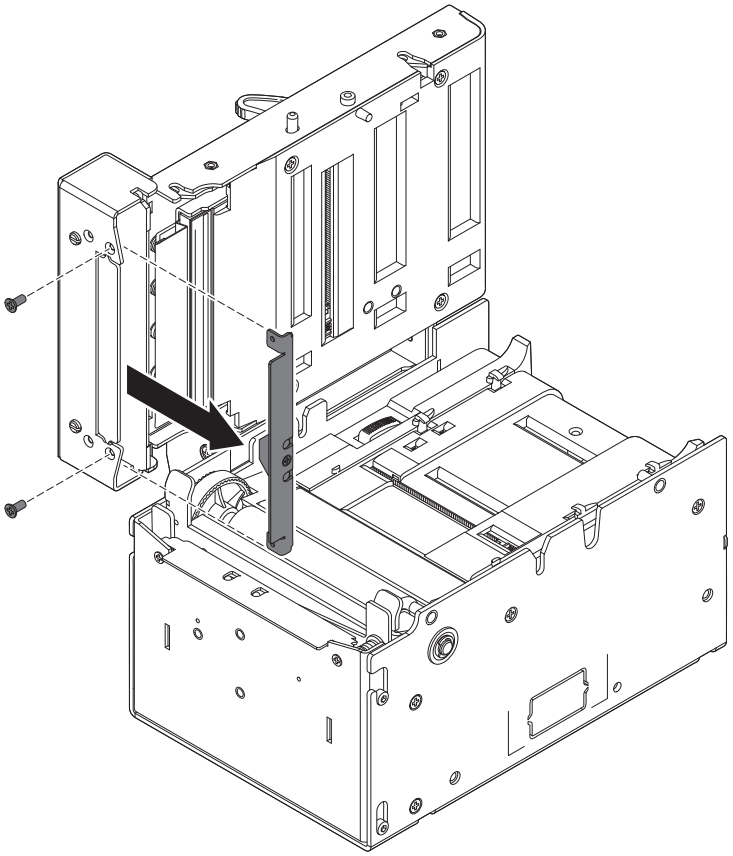




ATTENTION:
Pay attention to the exposed cutter blade.

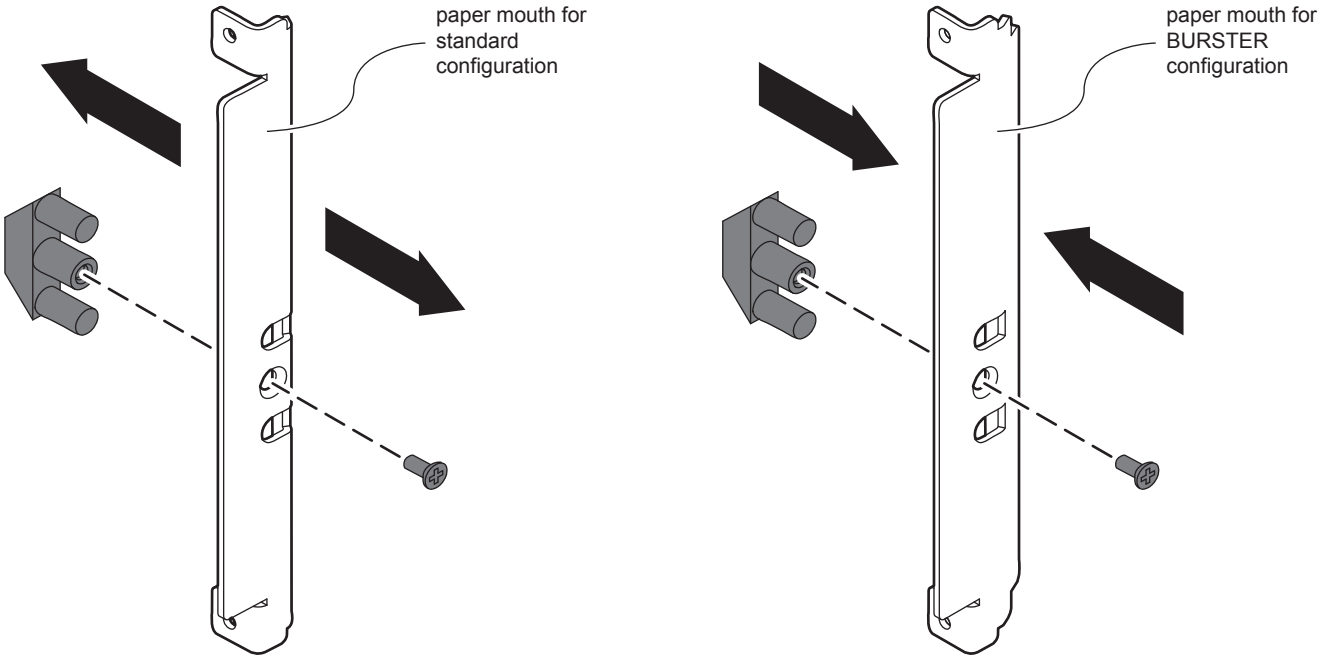
Open the upper cover.

2



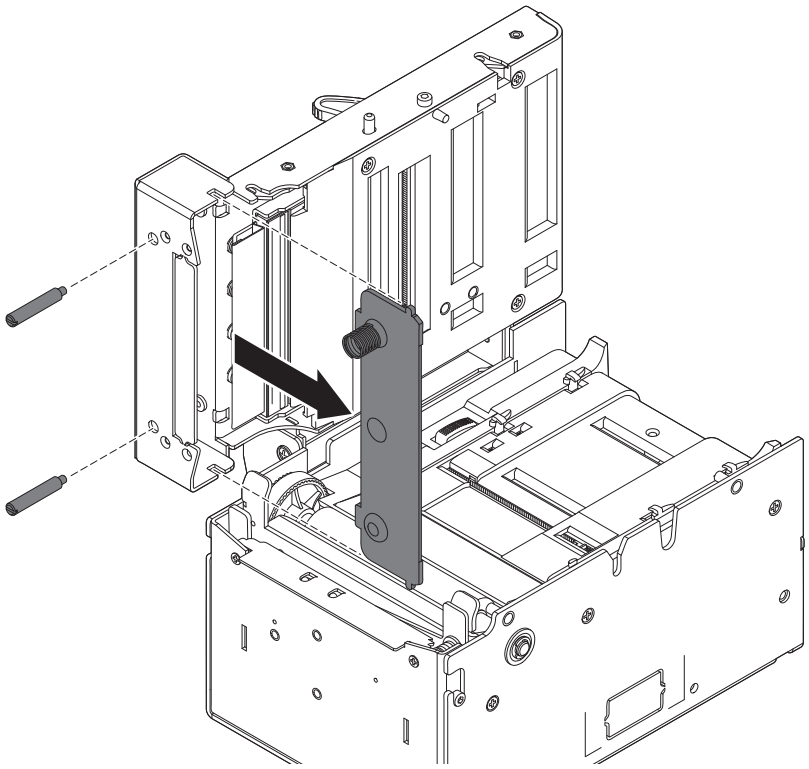
Unscrew the fixing screws and remove the upper paper mouth
for the standard configuration.

3



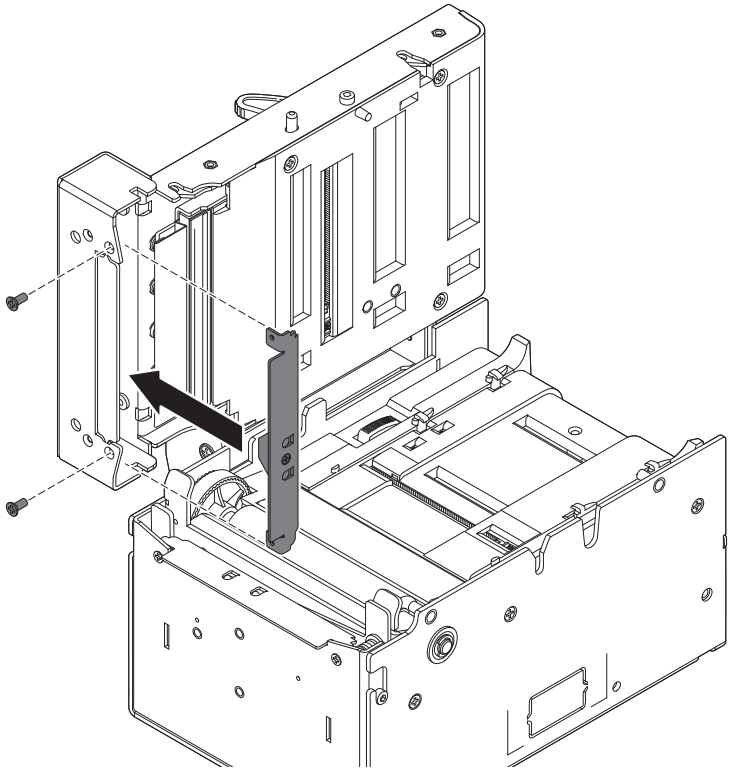
Unscrew the fixing screw and remove the light guide from the paper mouth for the standard configuration.
Using the same screw, fix the same light guide to the paper mouth for the BURSTER configuration.

4



Unscrew the fixing pins and take off the fixed blade and the spring.

5



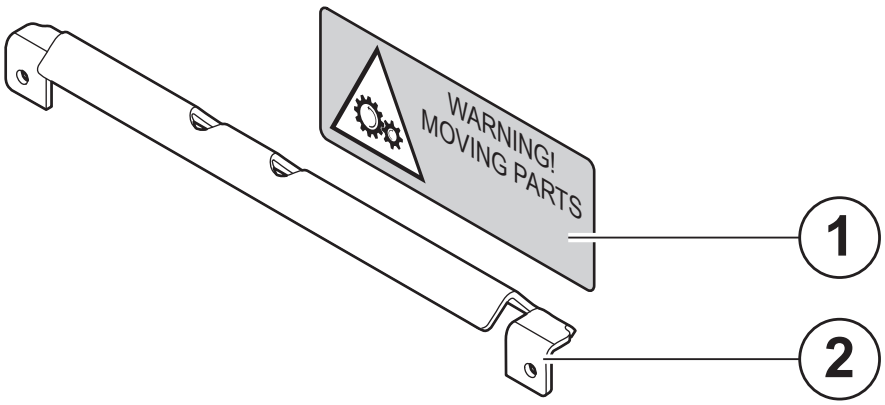
Fix the paper mouth group for the BURSTER configuration
by using the screws previously removed.

NOTE:
For ease of reference, for model with triple feeder is represented only the printer group without the triple feeder.

3.4 CUT&DROP configuration

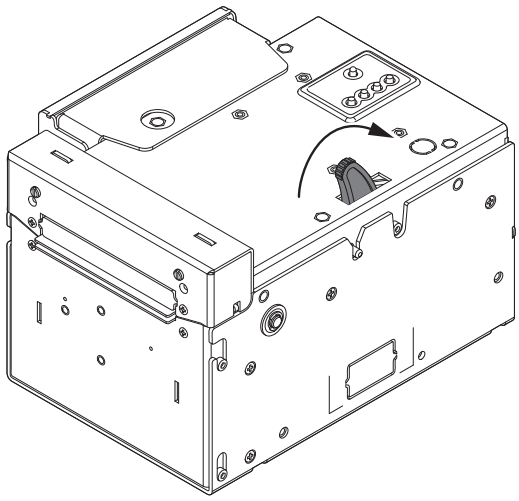
KPM302 (standard models and models with triple feeder)
KPM303 (standard models)

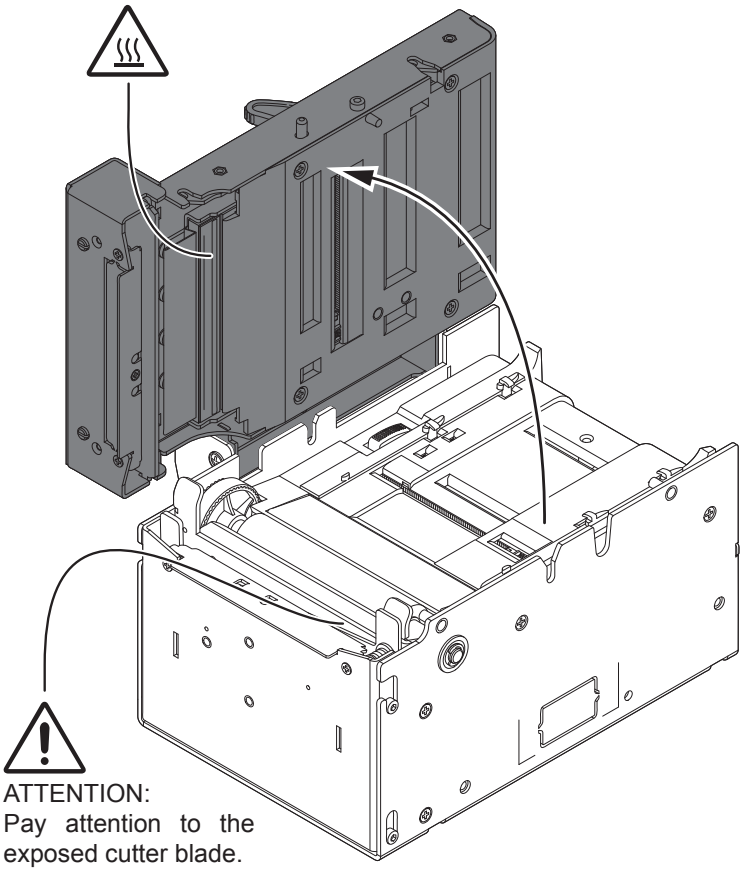
The device includes a kit for the CUT&DROP configuration (see the following figure).
The kit contains:
1. Label
2. Lower paper out feed mouth.



For the assembly procedure, proceed as follows:

1

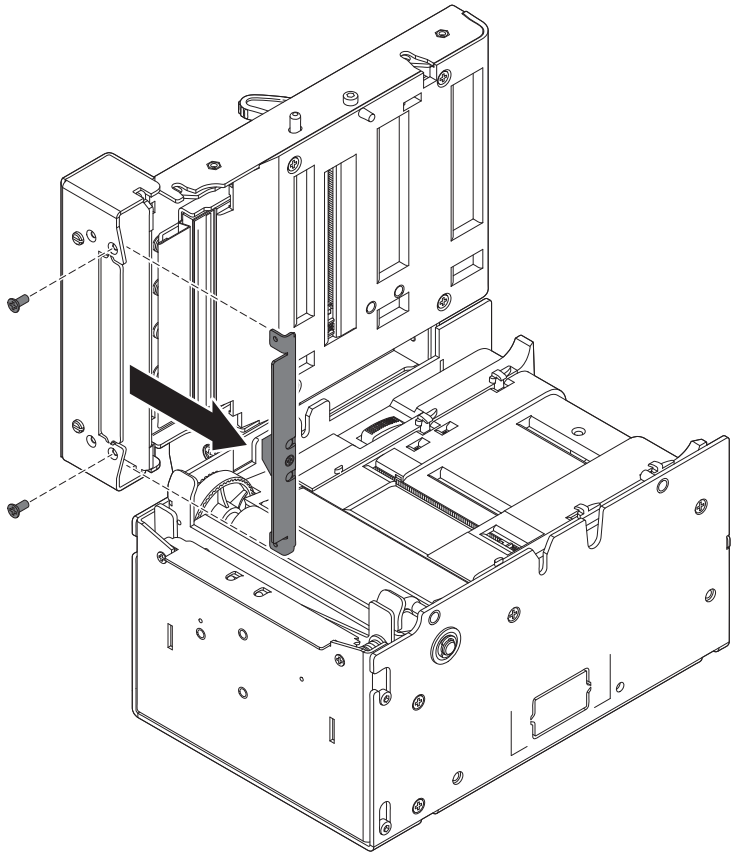




ATTENTION:
Pay attention to the exposed cutter blade.

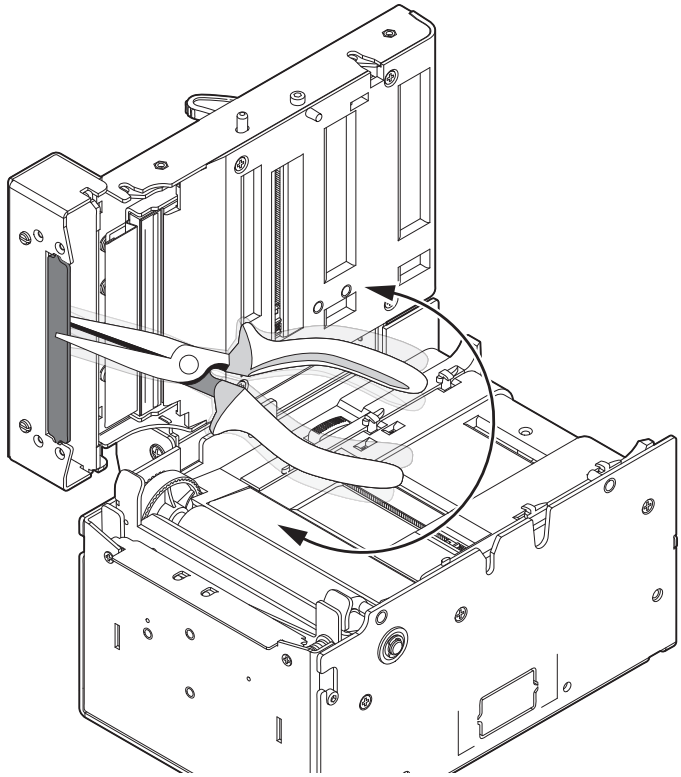
Open the upper cover.

2



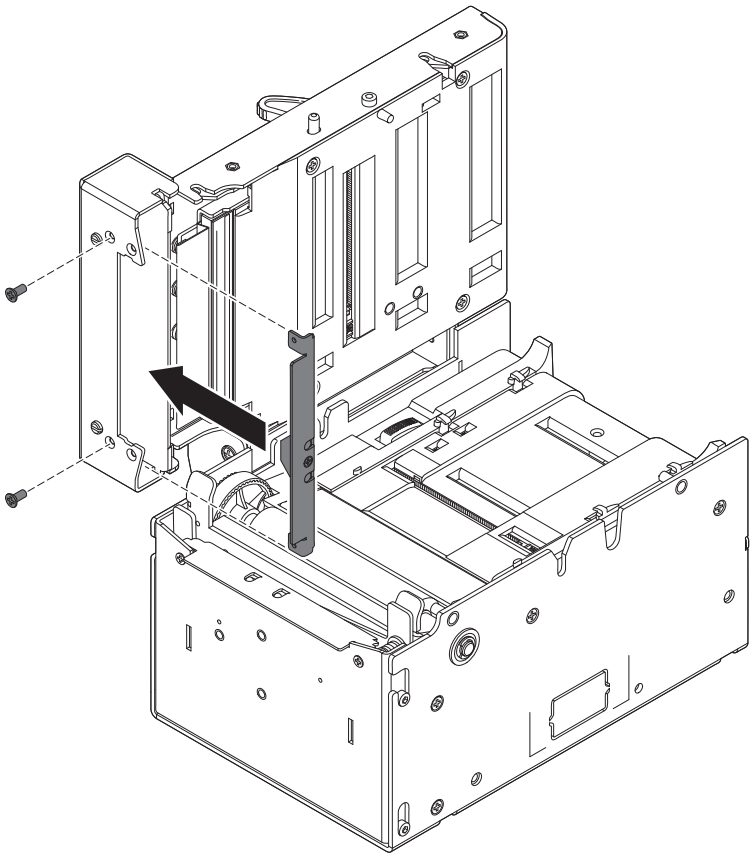
Unscrew the fixing screws and remove the upper paper mouth
for the standard configuration.

3



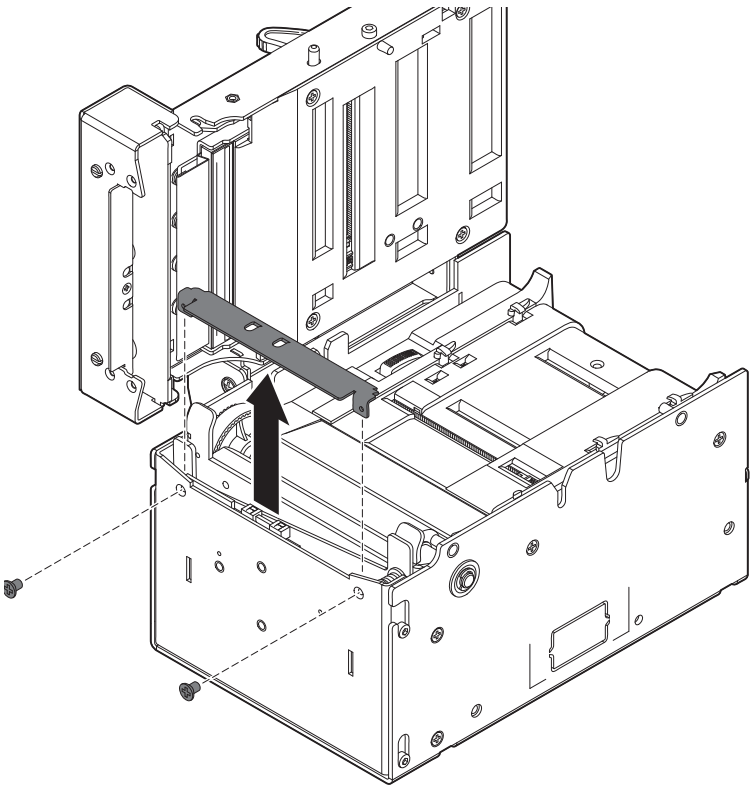
Using a clamp, remove the precut sheet metal
on the upper device cover.

4



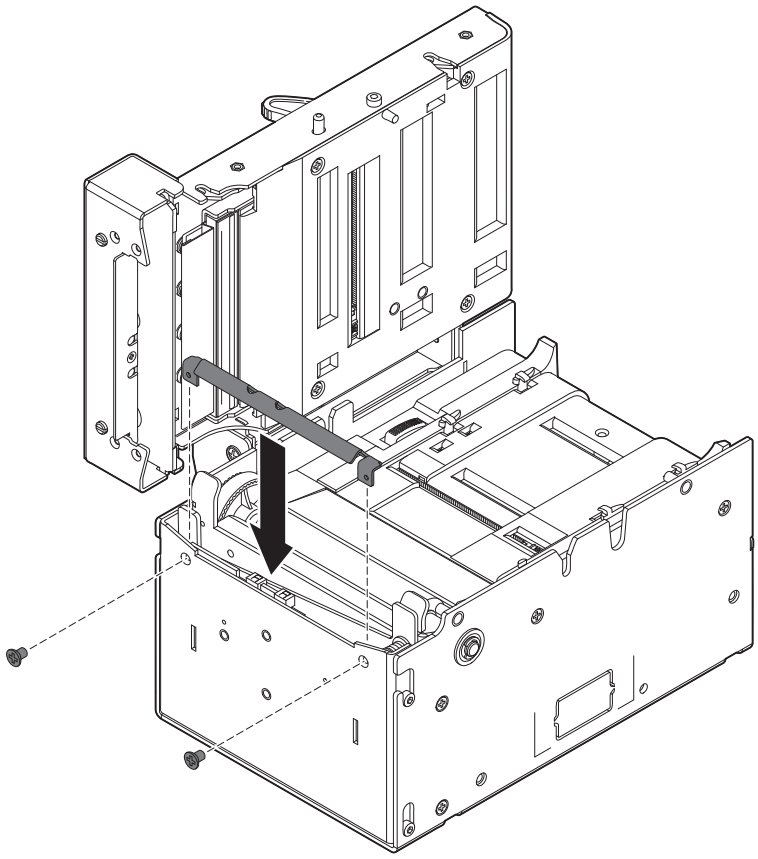
Fix the upper paper group for the standard configuration
in the upper holes on the cover using the screws previously removed.

5



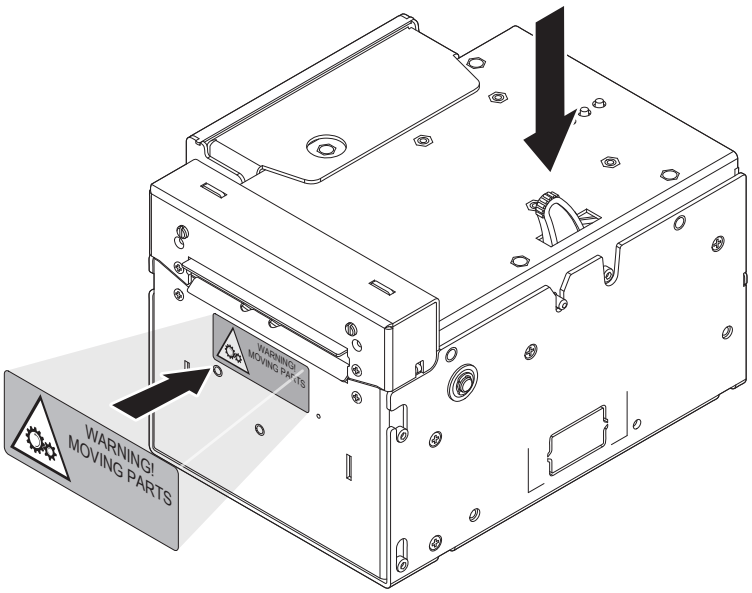
Unscrew the two fixing screws on the frontal cover and
take off the lower paper mouth of the standard configuration.

6



Fix the lower paper mouth for the CUT&DROP configuration
by using the screws previously removed.

7



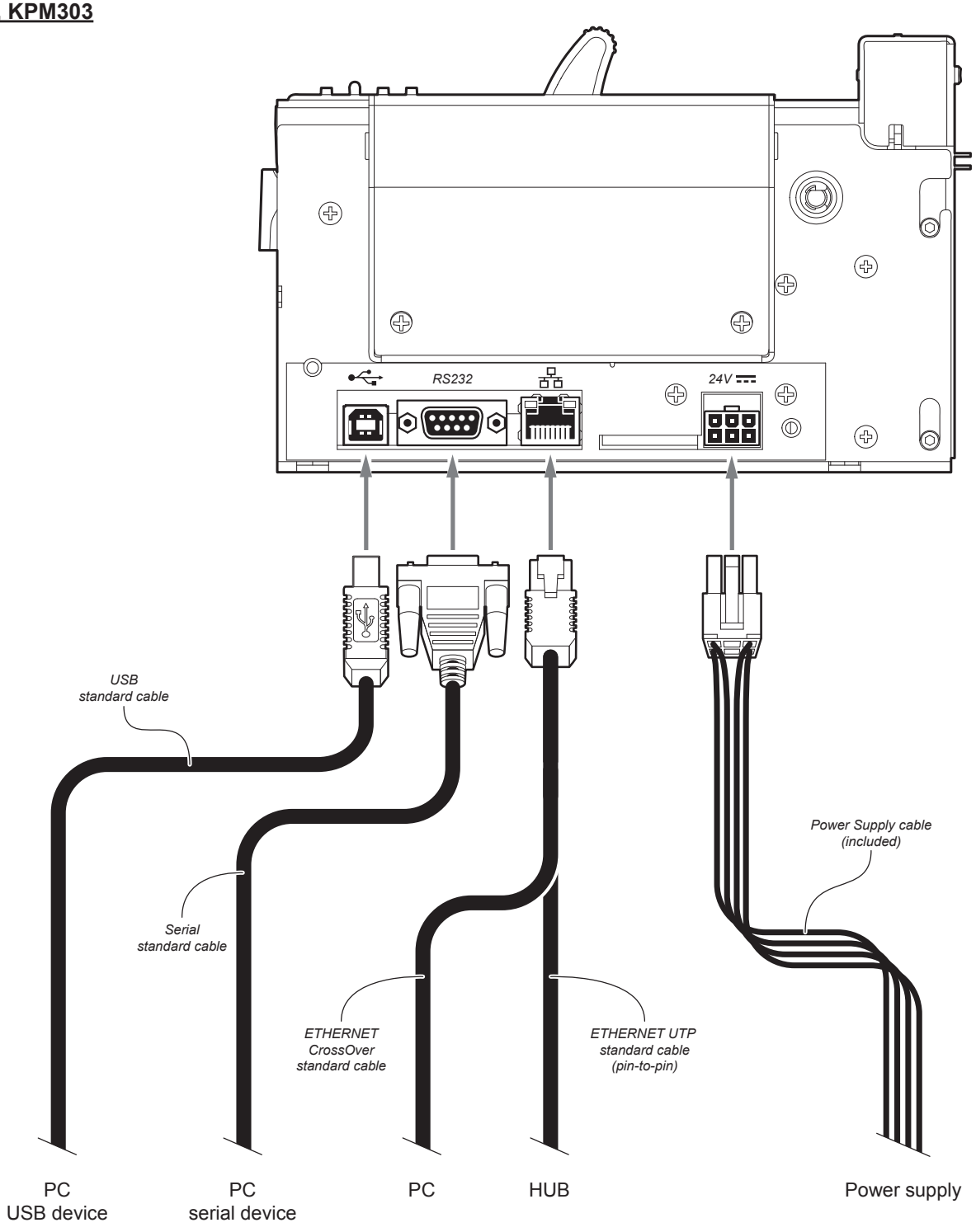
Close the upper cover and paste the
label (supplied with the CUT&DROP kit) on the frontal cover.

NOTE:
For ease of reference, for model with triple feeder is represented only the printer group without the triple feeder.

3.5 Connections

The following figures show the possible connections for the devices.

KPM302, KPM303

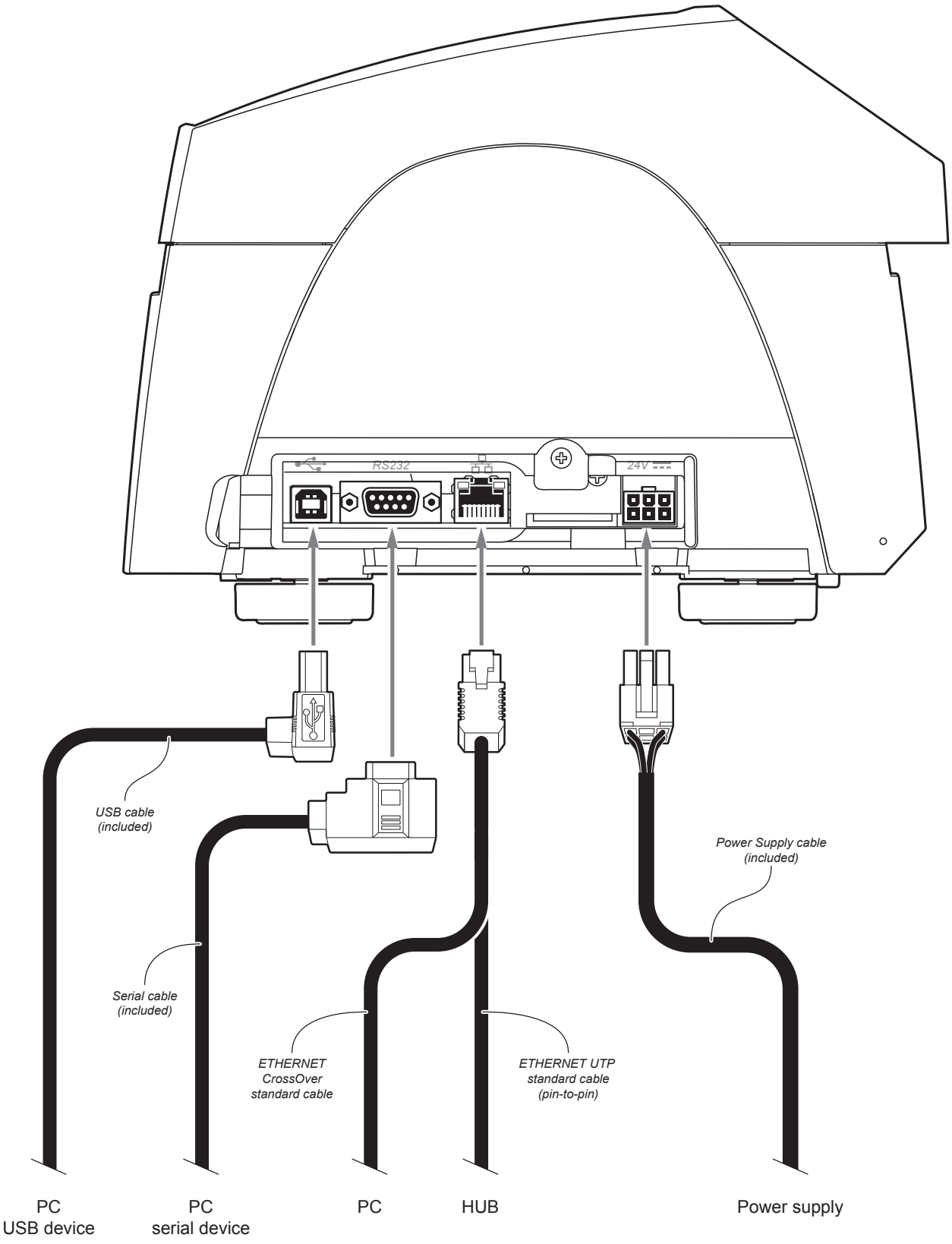


ATTENTION: In some using conditions, we recommend the installation of a ferrite core on the power supply cable.

NOTES:
If serial and USB connectors are inserted, communication port is USB.

For ease of reference, for some models is represented only the printer group without the triple feeder.

TK302, TK303



ATTENTION: In some using conditions, we recommend the installation of a ferrite core on the power supply cable.

NOTES:
If serial and USB connectors are inserted, communication port is USB.

For ease of reference, for some models is represented only the printer group without the triple feeder.

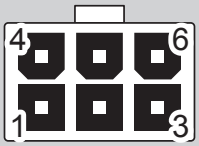
3.6 Pinout

POWER SUPPLY
Male Molex connector vertical (no. 39-30-0060)

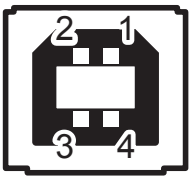
J26	1	+24 Vdc
	2	+24 Vdc
	3	+24 Vdc
	4	GND
	5	GND
	6	GND

ATTENTION:
Respect power supply polarity.

NOTE:
Power supply cable
The following figure shows the connector pinout of the power supply cable for the device:

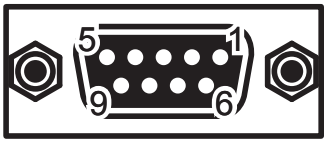


PIN	*Cable color*	*Signal*
1	*Red*	*+24V*
2	*not connected*	*+24V*
3	*Red*	*+24V*
4	*Black*	*GND*
5	*not connected*	*GND*
6	*Black*	*GND*



USB INTERFACE
Female USB type B connector

J13	1	USB-VBUS (out)
	2	PD -0
	3	PD +0
	4	GND



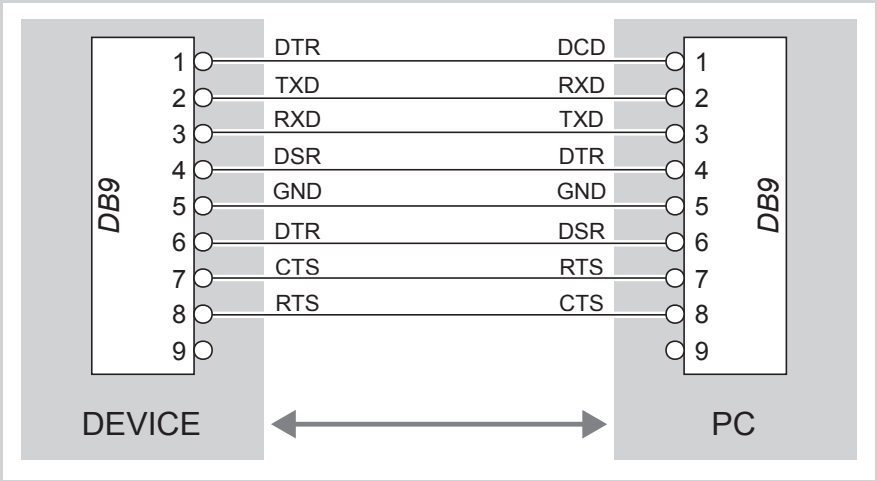
RS232 SERIAL INTERFACE

Female DB9 connector

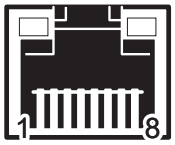
J1	1	DCD	
	2	TX	During transmission, takes the values “0” and “1” depending on data
	3	RX	During reception, takes the values “0” and “1” depending on data
	4	DSR	
	5	GND	
	6	DTR	When “1”, device is power on
	7	CTS	
	8	RTS	When “1”, device is ready to receive data
	9	n.c.	

NOTES:
Given the presence of the RS232 standard, logic value “0” corresponds to a voltage level of between +3Vdc and +15Vdc and logic value “1” corresponds to a voltage level of between -3Vdc and -15Vdc.

DEVICE > PC connection
The following picture shows an example of connection between the device and a personal computer using a 9 pin RS232 serial connector:



When use a serial cable, we recommend the installation of a ferrite core on the power supply cable.



ETHERNET INTERFACE

Female RJ45 connector

J16	1	TPOUT +
	2	TPOUT -
	3	TPIN +
	4	GND
	5	GND
	6	TPIN -
	7	n.c
	8	n.c
	9	+3.3 V
	10	LED-LAN
	11	+3.3 V
	12	LED-LNK
	13	Shield
	14	Shield

NOTES:
The functionality of two led are specified in the following tables:

- For 10Base-T connection:

LED	FUNCTION
LED-LNK	Link (yellow color): the led lights up when a connection is active
LED-LAN	Rx/Tx: (green color): the led lights up when occurs a data reception or transmission

- For 10/100Base-TX connection:

LED	FUNCTION
LED-LNK	The led light (yellow color) on when a connection is active and flashes wnen occurs a data reception or transmission
LED-LAN	The led light (green color) on when occurs a 100Mbit connection and off when occurs a 10Mbit connection

The device automatically recognizes the type of connection (cross or pin-to-pin).

The pinout shown in table represents the input signals to component J16 before the isolation voltage transformer (through-hole pin).

3.7 Driver and SDK

The drivers are available for the following operating system:

OPERATING SYSTEM	DESCRIPTION	INSTALLATION PROCEDURE
Windows	Driver for Windows XP	From the START menu, press Run and type-in the path where the SW was saved on your PC, then click OK. Follow the instructions that appear on the screen to install the driver.
	Driver for Windows VISTA (32/64bit)	
	Driver for Windows 7 (32/64bit)	
	Driver for Windows 8 (32/64bit)	
	Driver for Windows 8.1 (32/64bit)	
	Driver for OPOS	
Linux	Driver for Linux (32/64bit)	Follow the instruction get back on the README.TXT file. You can find it in the software package downloaded in advance.
Android	SDK for CustomAndroidAPI	Extract the zipped folder to the destination path desired. Follow the instructions present in the software package that you downloaded on how to install and use the SDK.
iOS	SDK for CustomiOSApi	Extract the zipped folder to the destination path desired. Follow the instructions present in the software package that you downloaded on how to install and use the SDK.

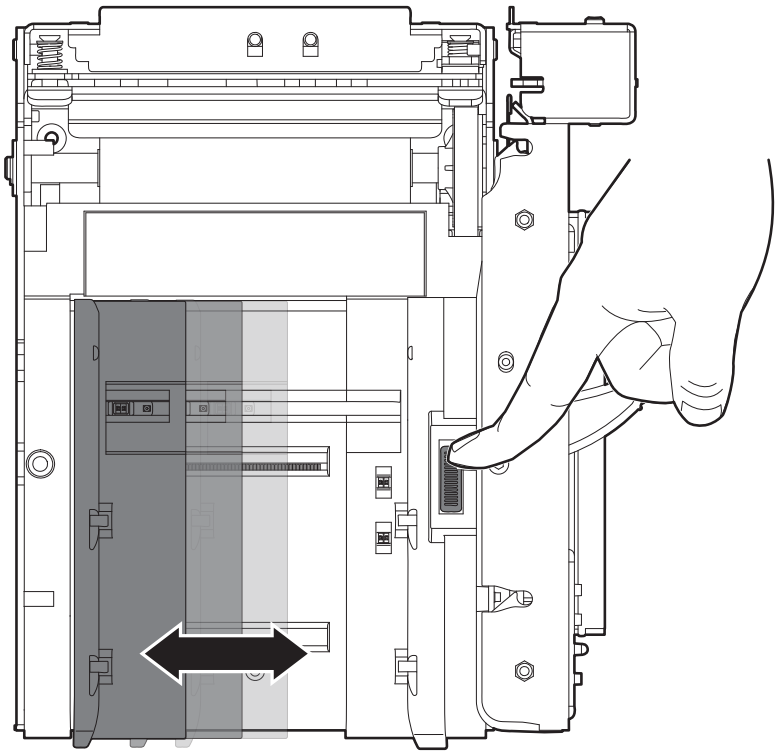
NOTE:
All drivers and SDK can be found in the DOWNLOAD section of the web site www.custom.biz.

4 OPERATION

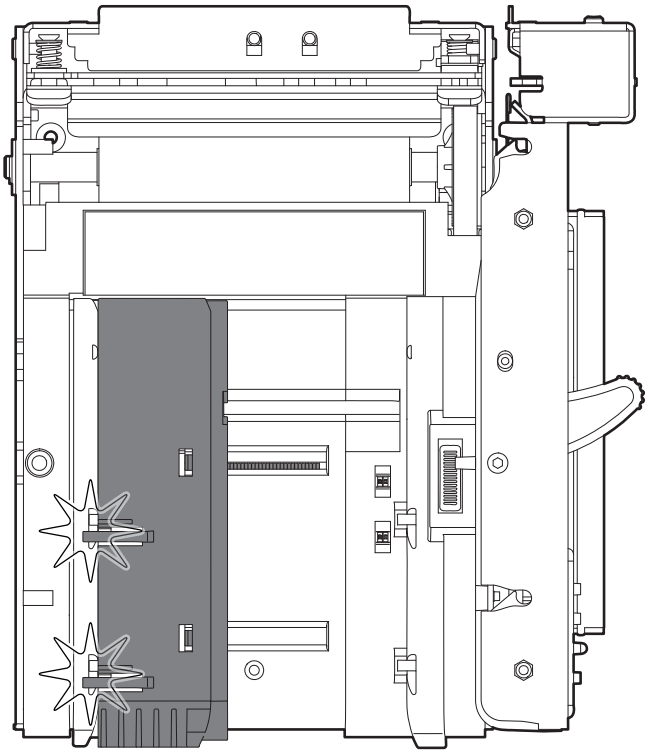
4.1 Adjusting paper width

Models without triple feeder

Paper width may be adjusted from 40mm to 82.5mm by pressing the unlocking button and moving the adjustable paper guide as shown in the figure.



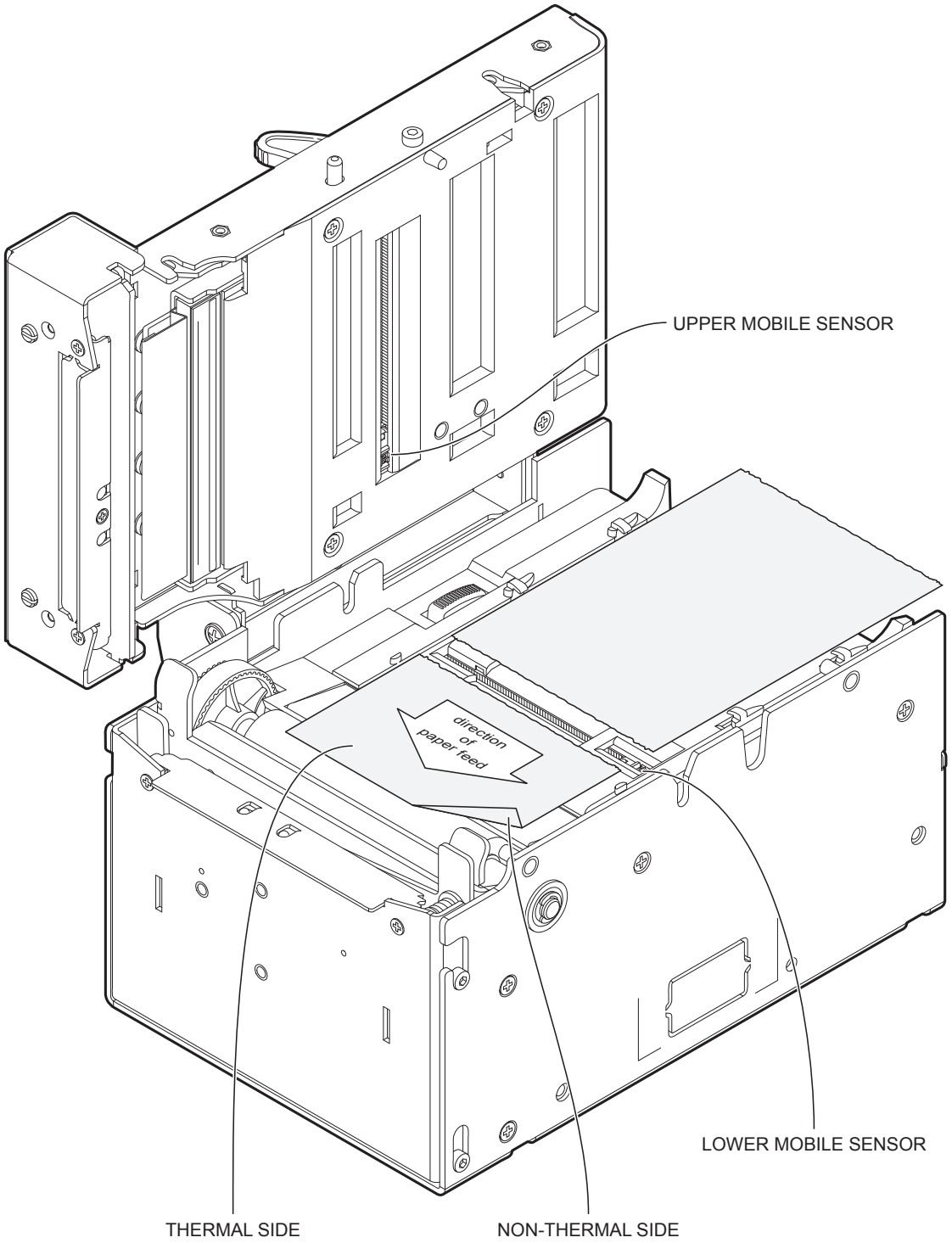
To manage paper width from 20mm to 40 mm, apply the spacer on the adjustable paper guide (see following figure), then adjust the paper width.



NOTE: For ease of reference, it is represented only the internal printer without the external plastic chassis.

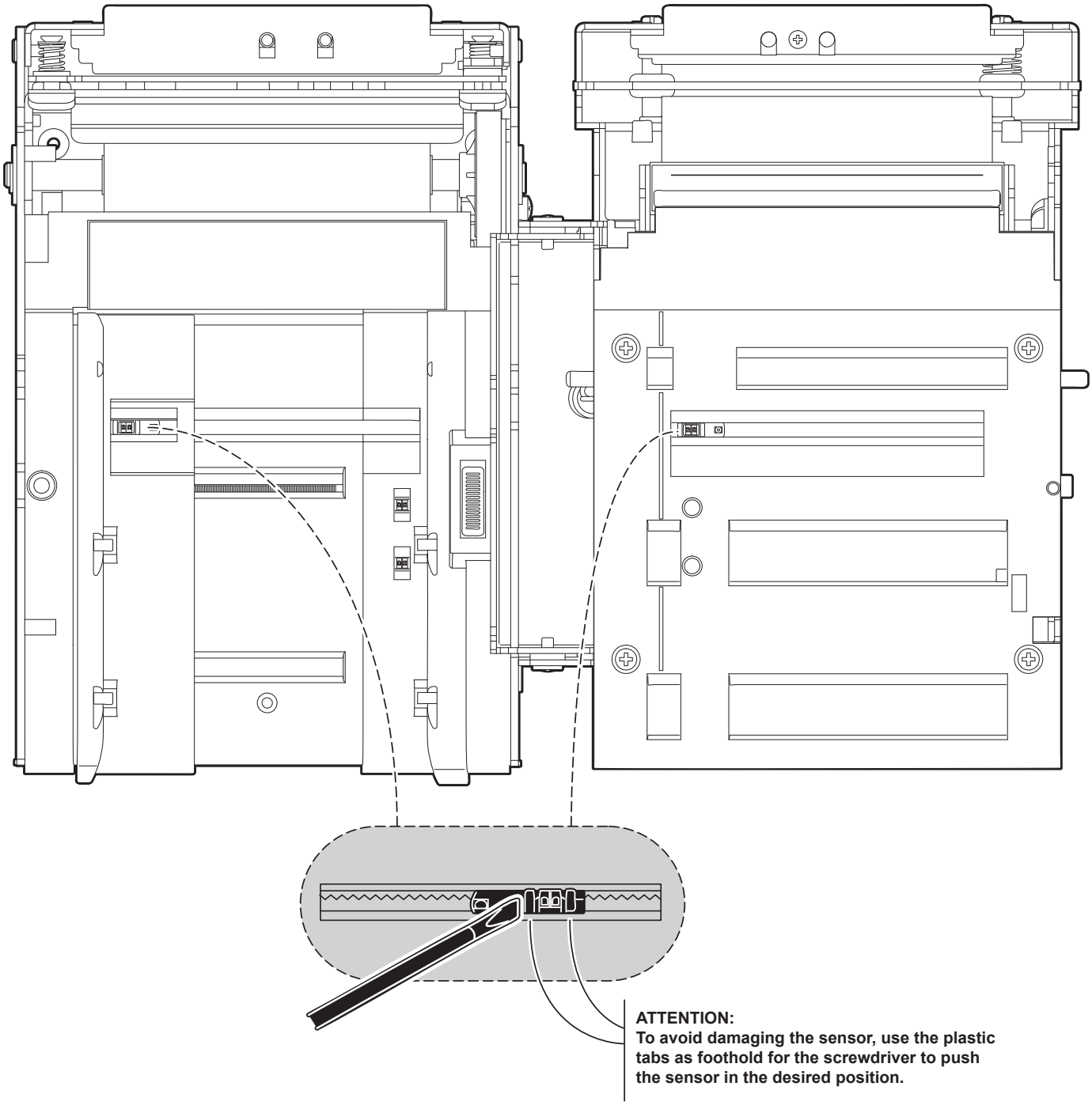
4.2 Adjusting the alignment sensors

The device is equipped with two mobile sensors for the detection of the alignment black mark placed both on the thermal side and on the non-thermal side of paper as shown in the following figure.
The device user will need to manually move these mobile sensors according to the position and the type of the black mark on the paper (see next paragraphs).
To use these sensors, you must set the “Notch/B.Mark Position” setup parameter on the correct value (see Chapter 5).



NOTE: For ease of reference, for some models is represented only the internal printer group without the external plastic chassis or triple feeder.

To adjust the mobile sensors position according to the black mark position and type on paper, open the device cover (see par.4.4) and move the sensors to the desired position using a small screwdriver or a pointed object.



ATTENTION:
To avoid damaging the sensor, use the plastic tabs as foothold for the screwdriver to push the sensor in the desired position.

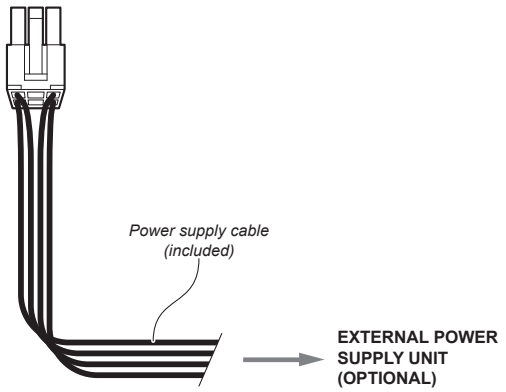
NOTES:
For ease of understanding, the image shows the two flats represented in the same plane.

For ease of reference, for some models is represented only the internal printer group without the external plastic chassis or triple feeder.

4.3 Switch the device ON

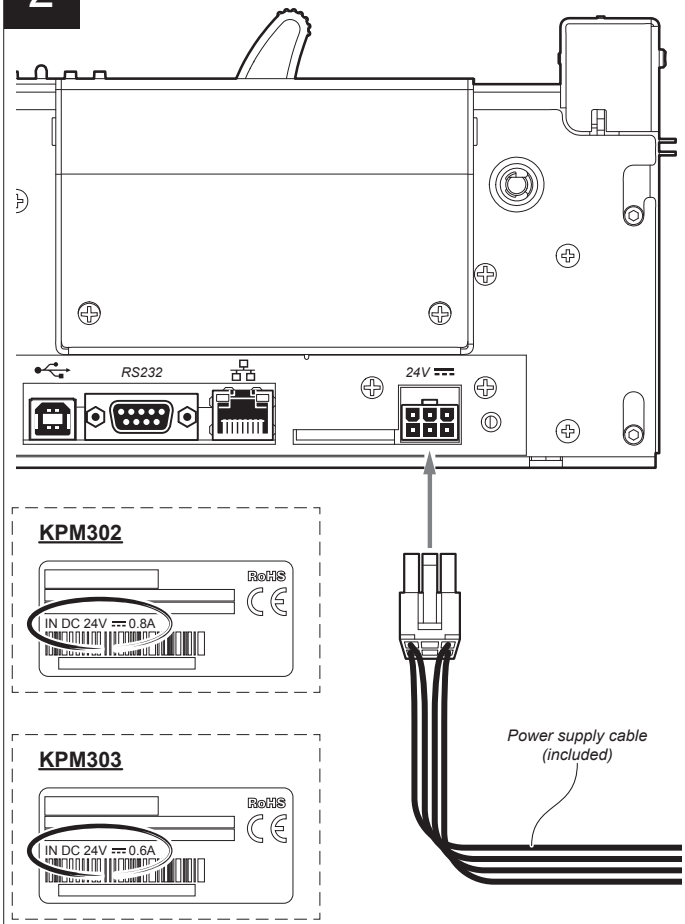
KPM302, KPM303

1



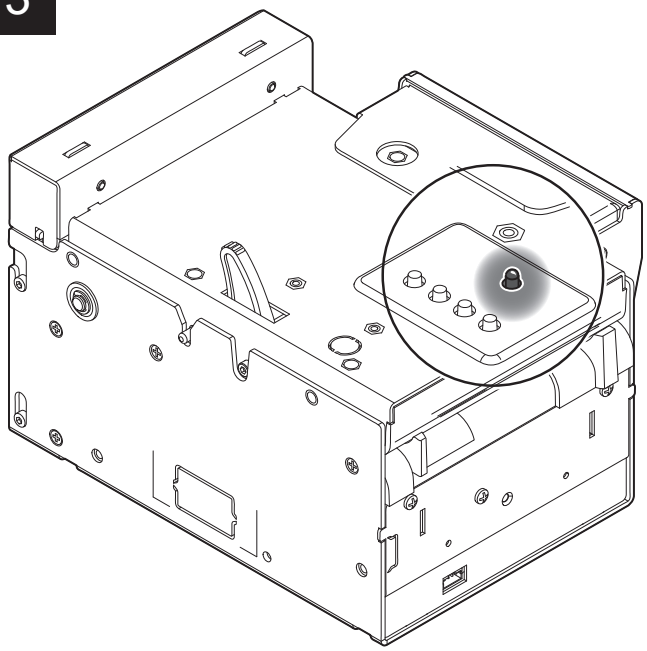
Connect the power supply cable
to an external power supply unit.

2



Connect the power supply cable to the device.
Use the type of electrical power supply
indicated on the label.

3

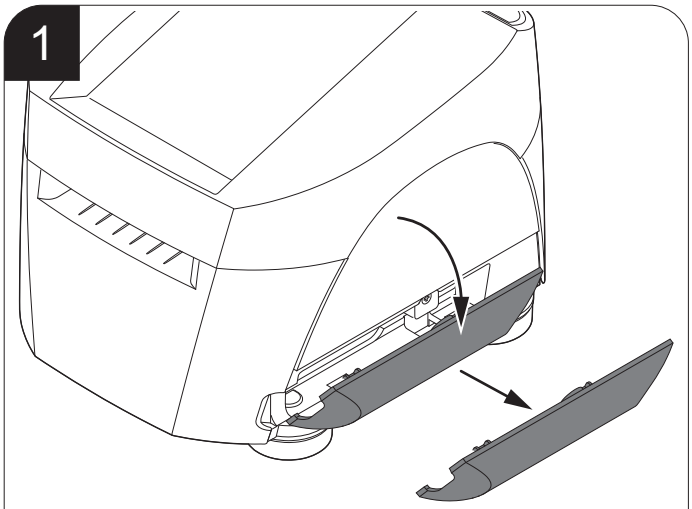


The green led turn on
and the device is ready.

NOTE: For ease of reference, it is represented only the printer group without the triple feeder.

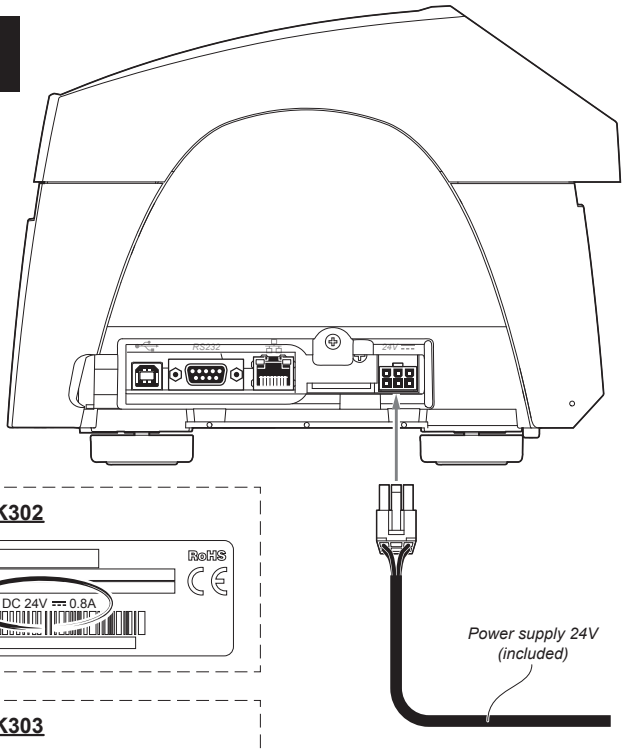
TK302, TK303

1



Remove the
connectors cover.

2

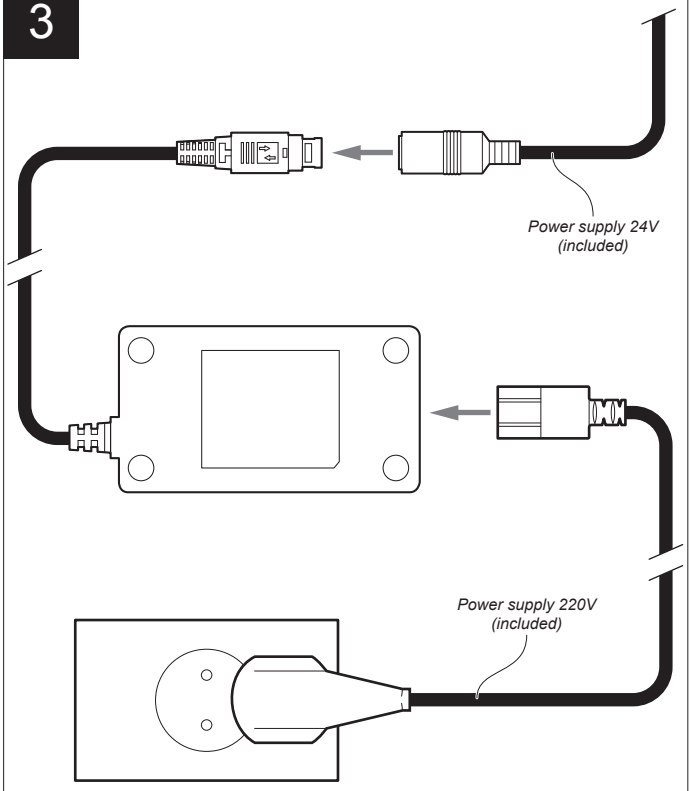


TK302

TK303

Connect the power supply 24V to the device.
Use the type of electrical power supply
indicated on the label.

3



Connect both the power supply cables
(24V and 220V) to the power supply and
connect the cable 220V to outlet.

4

The display turns on with the standby message.
The device is ready.

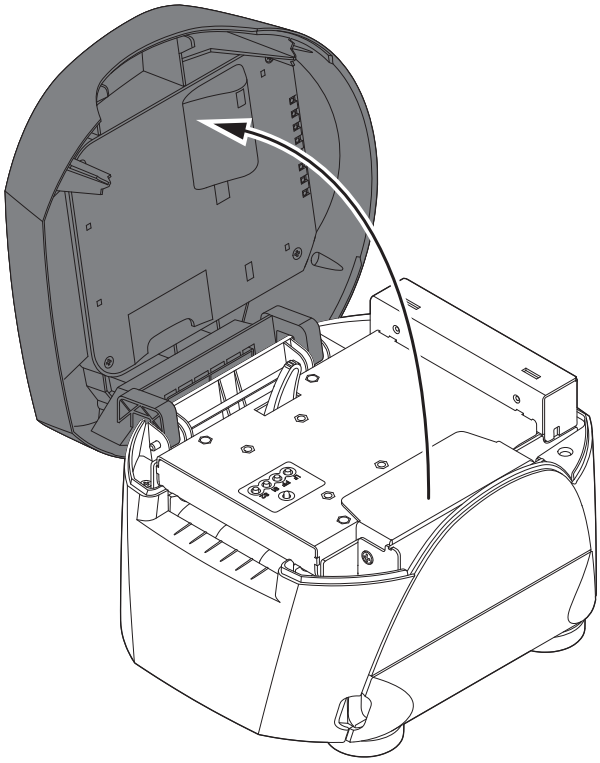
NOTE: For ease of reference, it is represented only the printer group without the triple feeder.

4.4 Loading the paper roll

To change the paper proceed as follows. At every change of paper, check inside the device to locate and remove any scraps of paper.

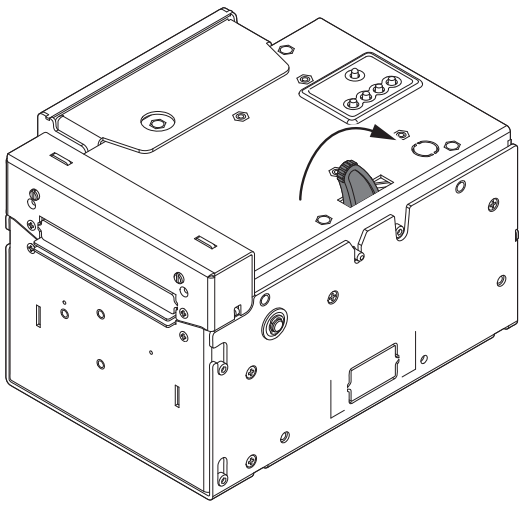
Models without triple feeder

1 **TK302, TK303**



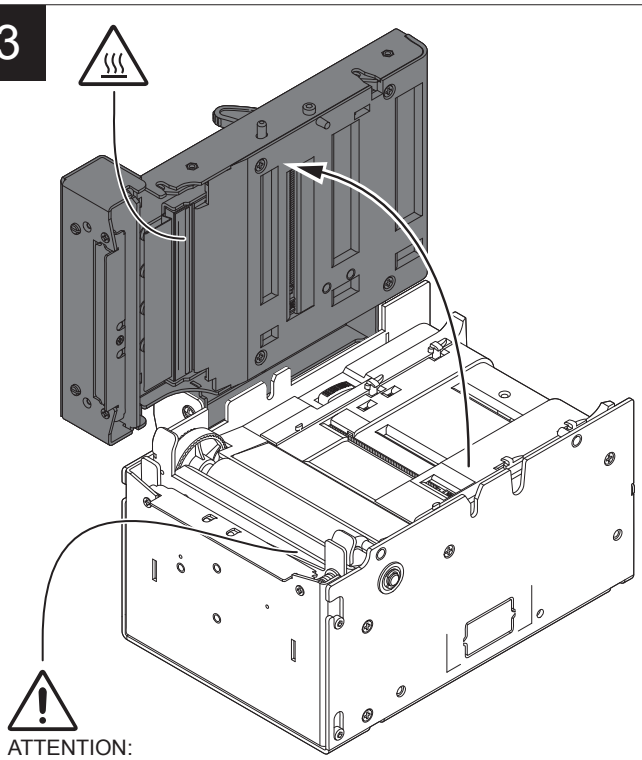
Open the
upper plastic cover.

2



Push the opening lever
in the direction shown in the figure.

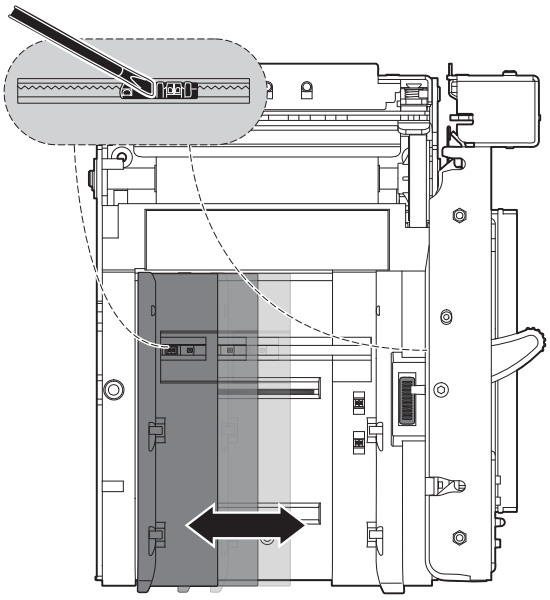
3



ATTENTION:
Pay attention to the
exposed cutter blade.

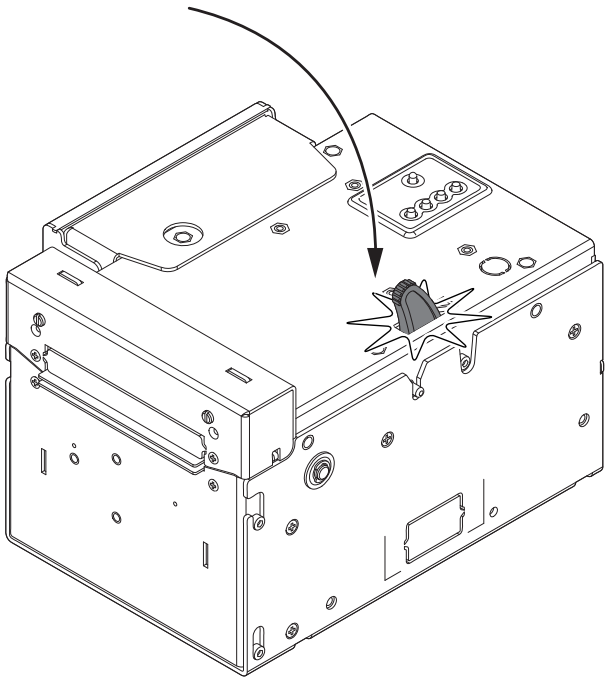
Open the upper cover
of the device.

4



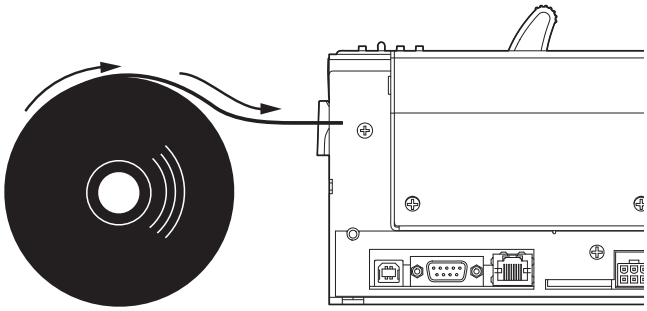
Adjust the paper width and the notch sensors
position (see previous paragraphs).

5



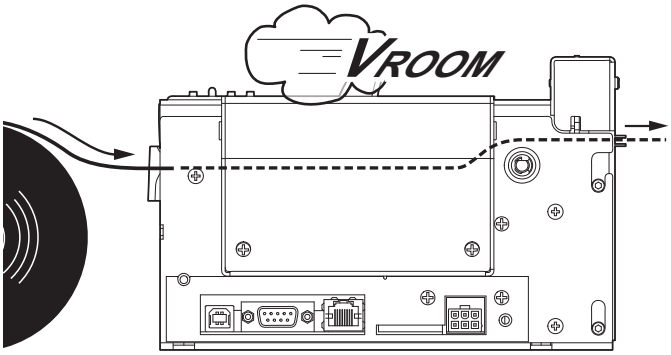
Close the upper cover
of the device.

6



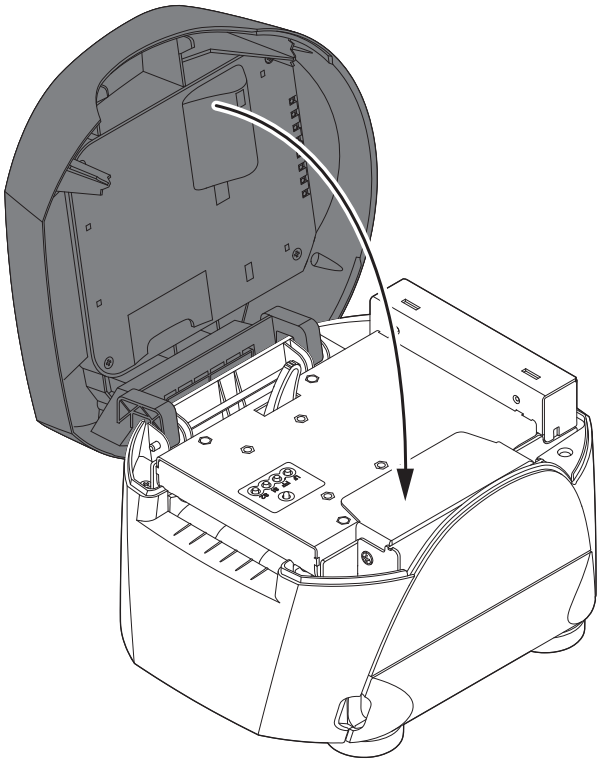
Insert the paper into the input mouth so that it unrolls
correctly. Be sure that the paper is
correctly positioned into paper guides.

7



Wait until the paper is
automatically loaded.

8 **TK302, TK303**

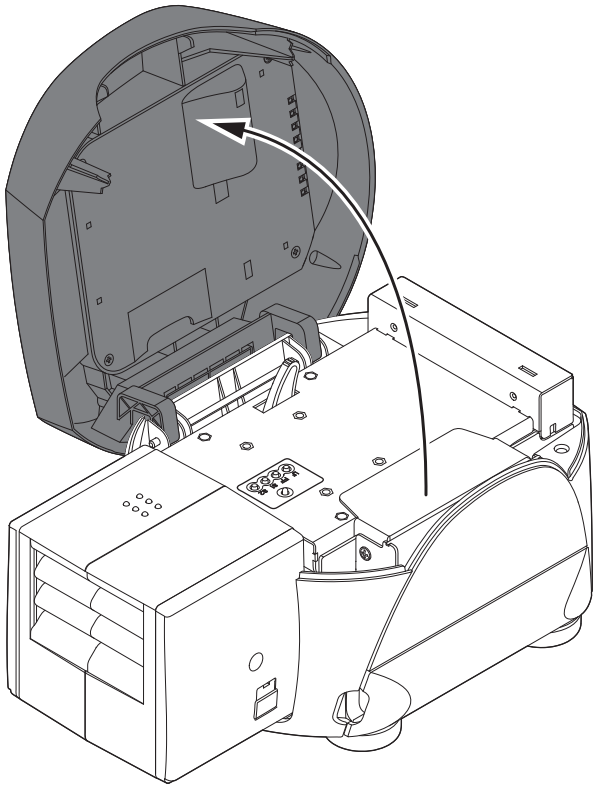


Close the
upper plastic cover.

NOTE:
For ease of reference, in some figure is represented only the internal printer without the external plastic chassis.

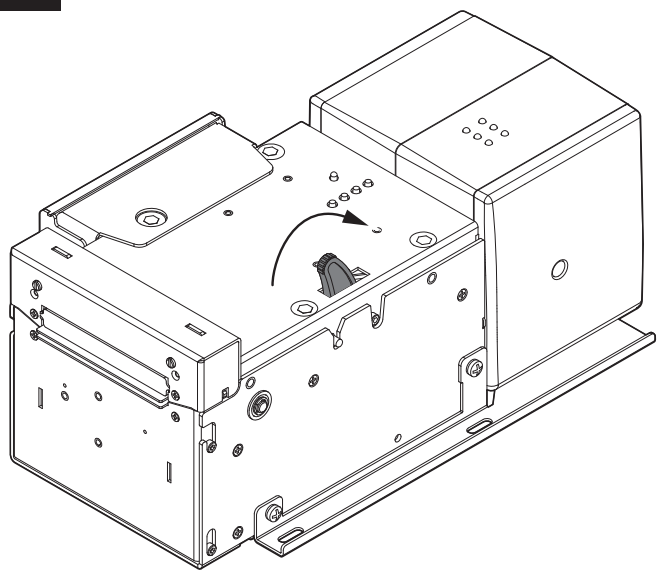
Models with triple feeder

1 **TK302**



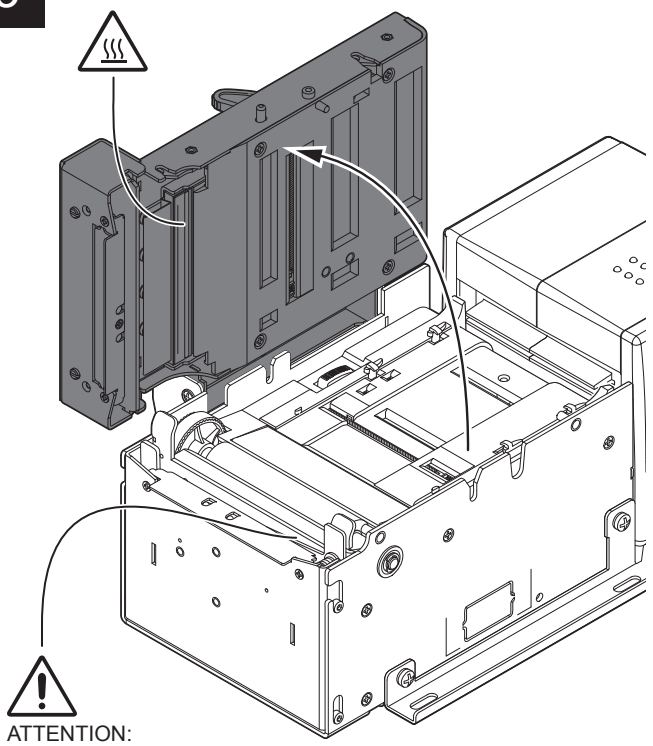
Open the
upper plastic cover.

2



Push the opening lever
in the direction shown in the figure.

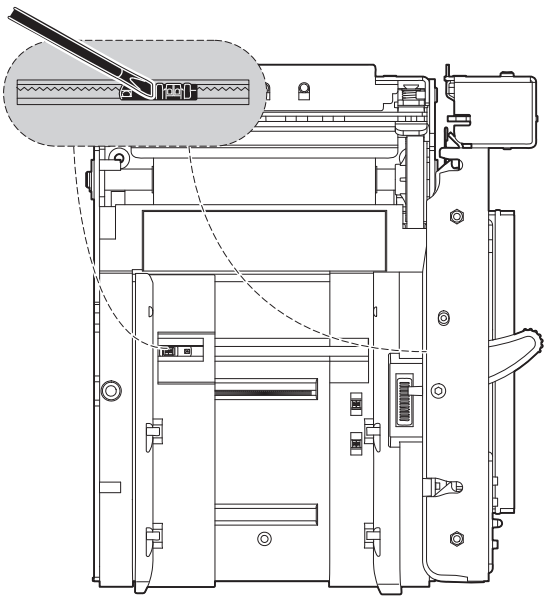
3



ATTENTION:
Pay attention to the
exposed cutter blade.

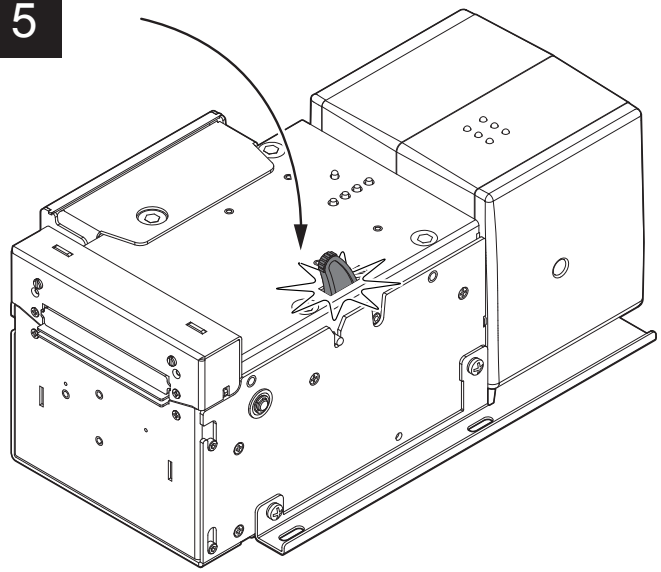
Open the upper cover
of the device.

4



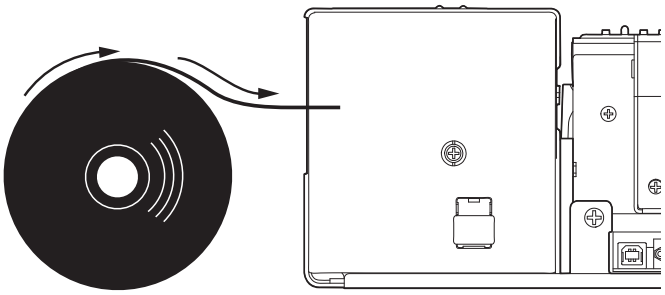
Adjust the notch sensors position
(see previous paragraphs).

5



Close the upper cover
of the device.

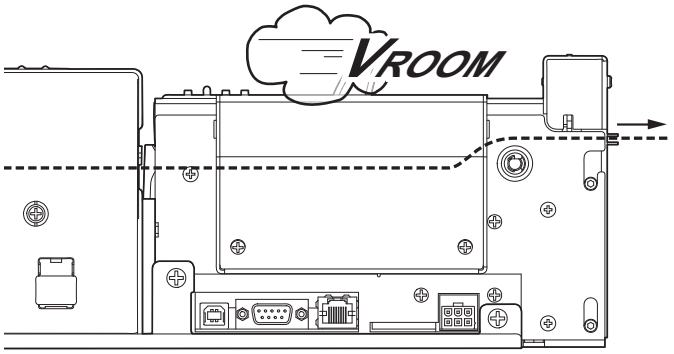
6



ATTENTION:
In case of ticket with TAG RFID, is recommended to insert the ticket into the central feeder (paper input feeder 2). The use of paper inputs 1 and 3 causes a slight bending of paper and therefore the integrity of the TAG RFID is not guaranteed. Before proceeding, check with a sample ticket.

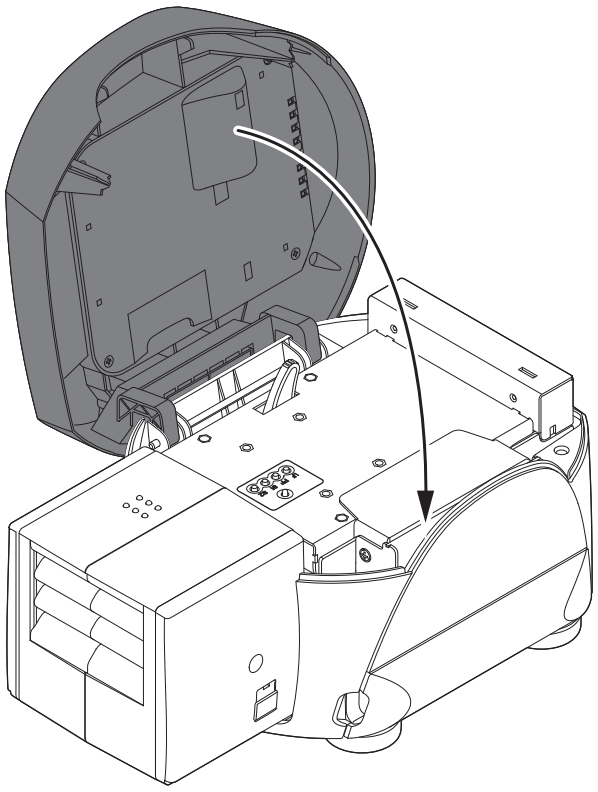
Insert the paper into on of the input feeder so that it unrolls correctly. Be sure that the paper is correctly positioned into paper guides.

7



Wait until the paper is
automatically loaded.

8 **TK302**



Close the
upper plastic cover.

NOTE:
For ease of reference, in some figure is represented only the internal printer without the external plastic chassis.

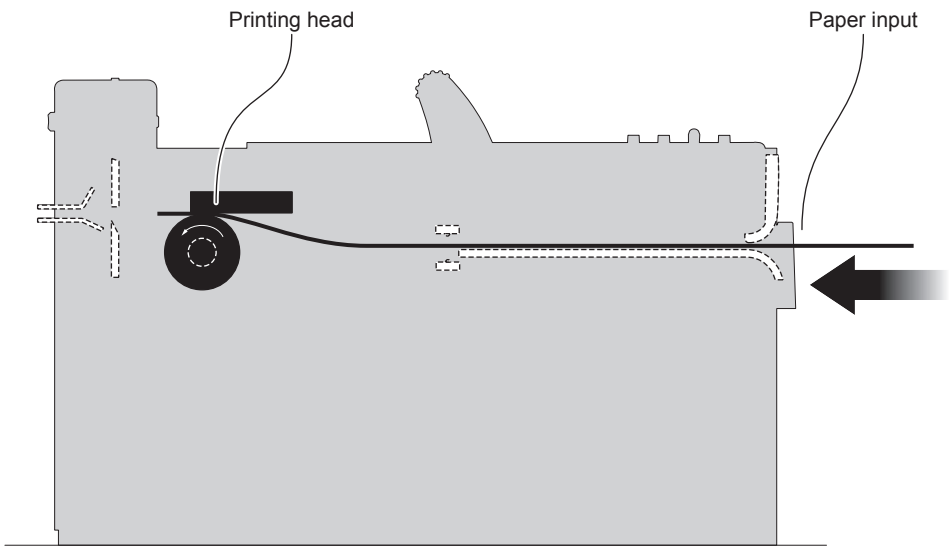
4.5 Issuing ticket

The device allows you to choose between different operating modes for the issuance of printed tickets.
The operating modes shown in the following images, depend on the settings of the configuration parameters and commands sent to the device.

NOTE: For ease of reference, for some models is represented only the internal printer group without the external plastic chassis or triple feeder.

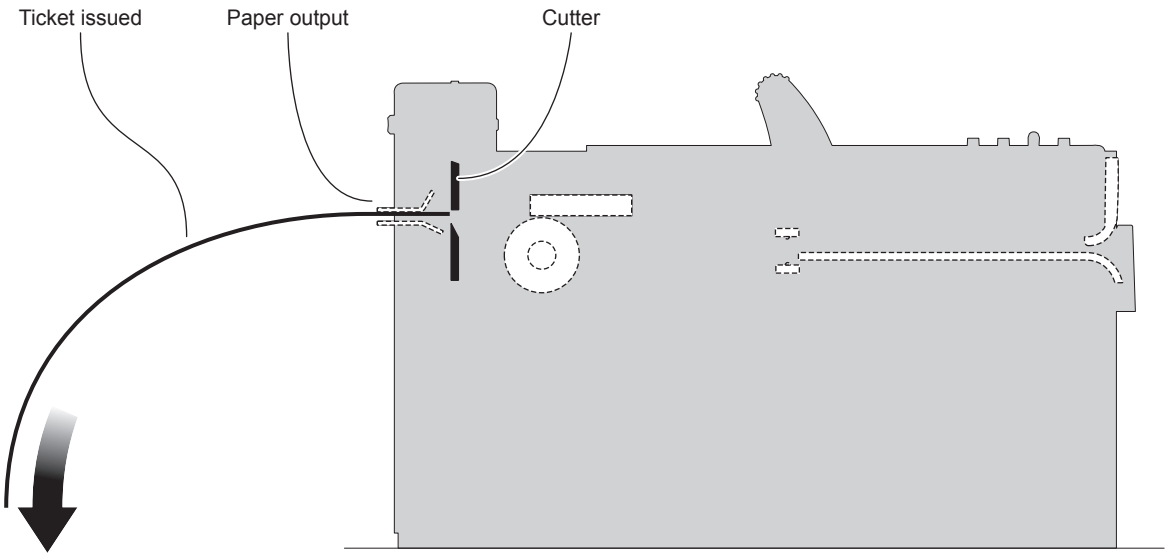
Standard mode (all models)

1



The device starts the ticket printing.

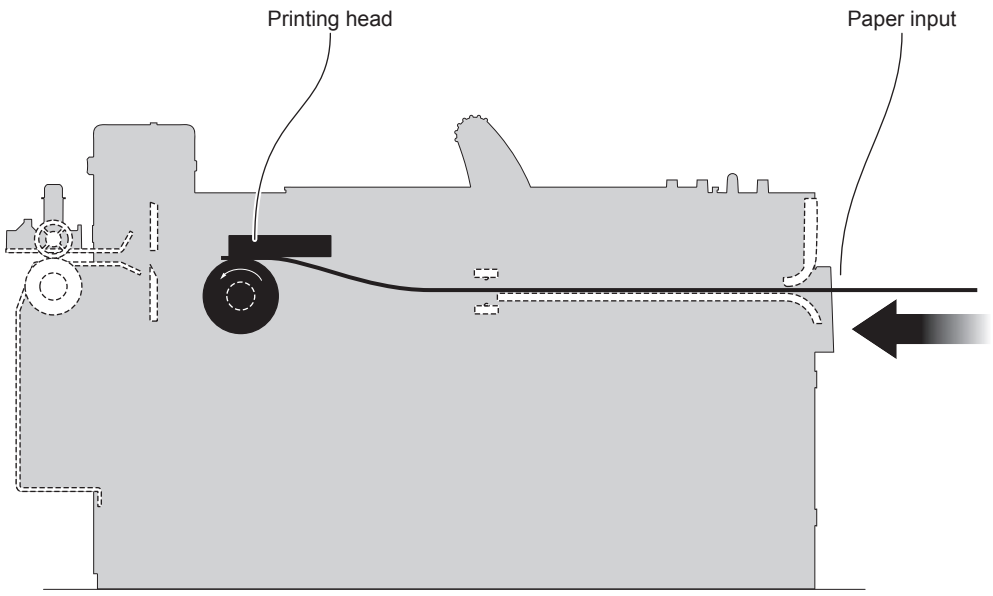
2



When printing ends, the device cuts the ticket printed that is issued from the paper output.

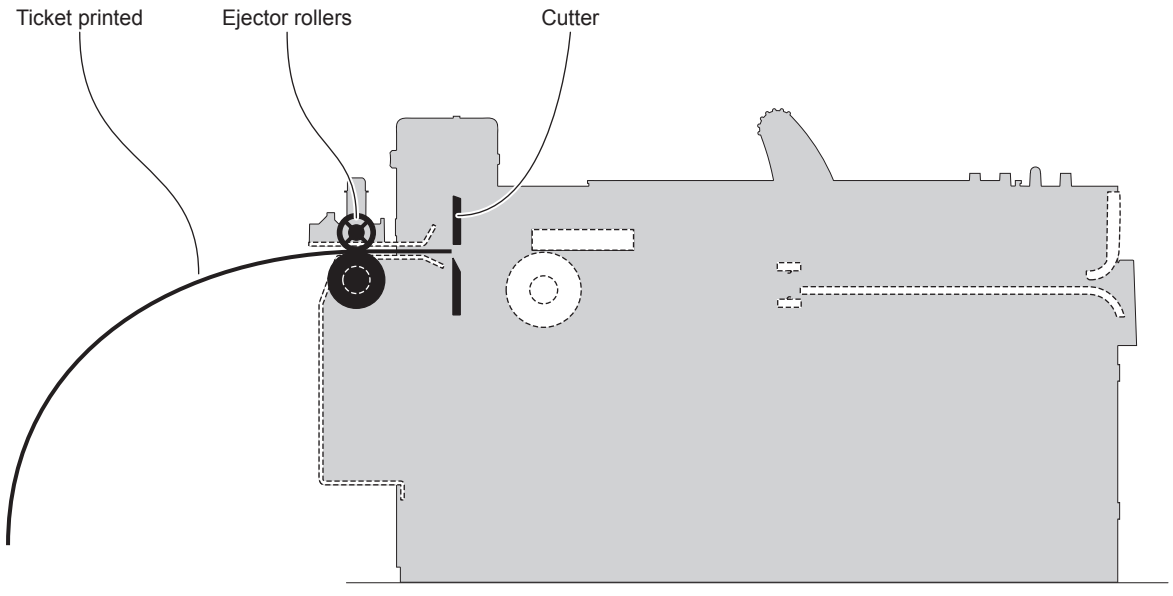
“PRESENT” mode (models with ejector device)

1



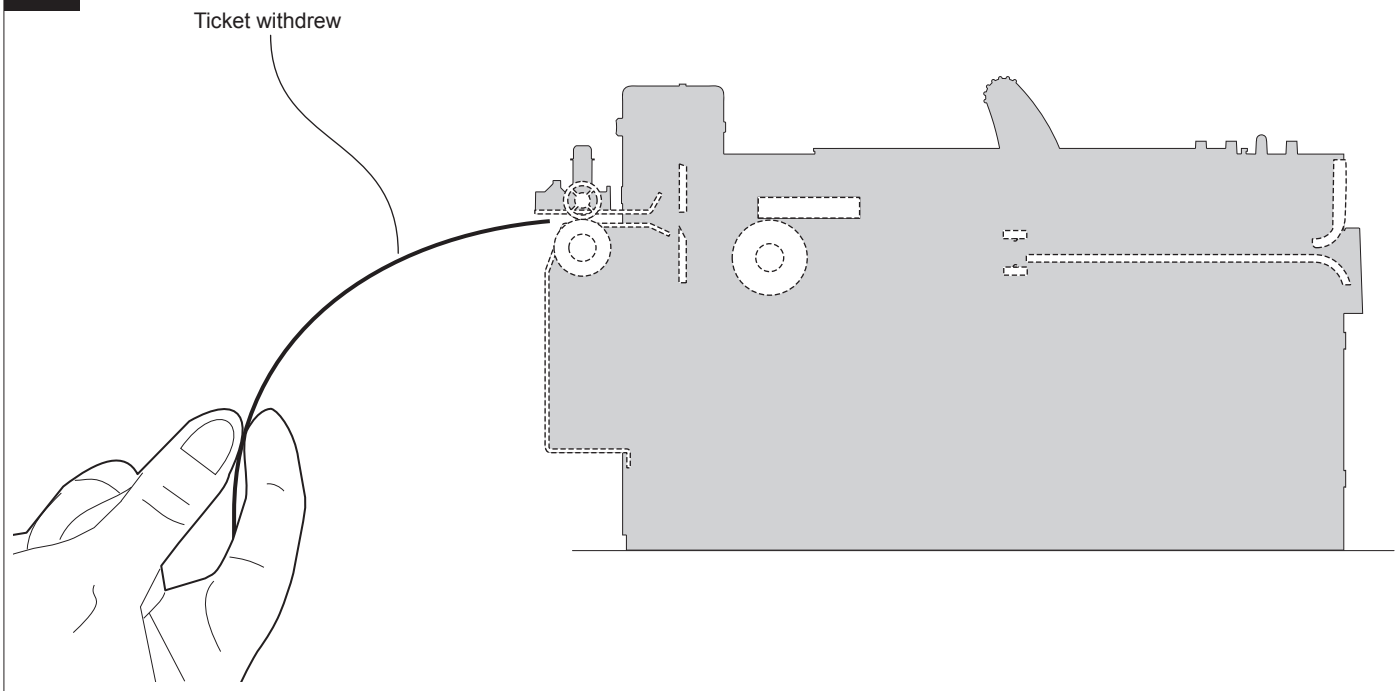
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed
and hold it between the ejector rollers.

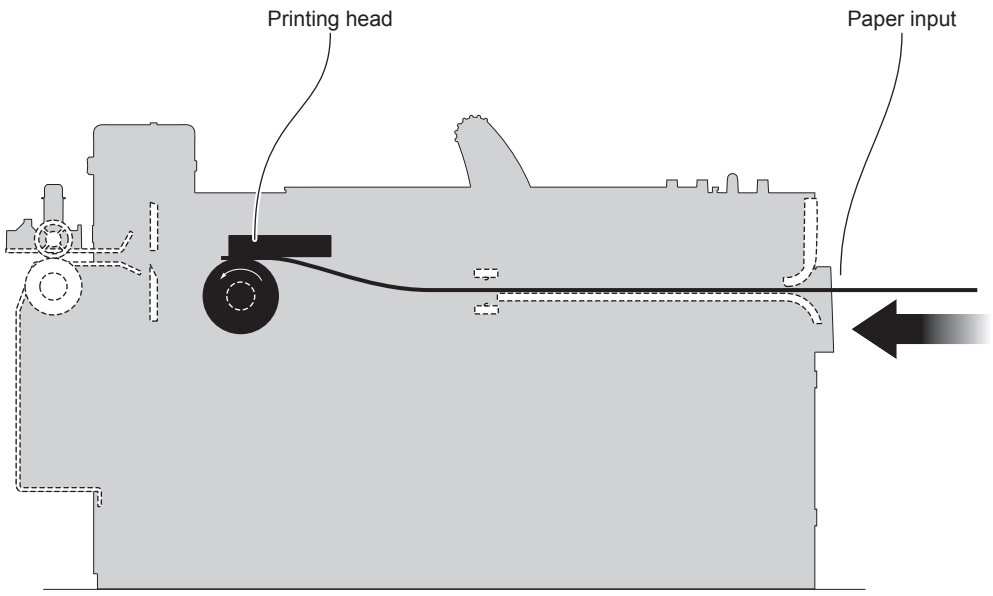
3



The user withdraws the ticket printed.

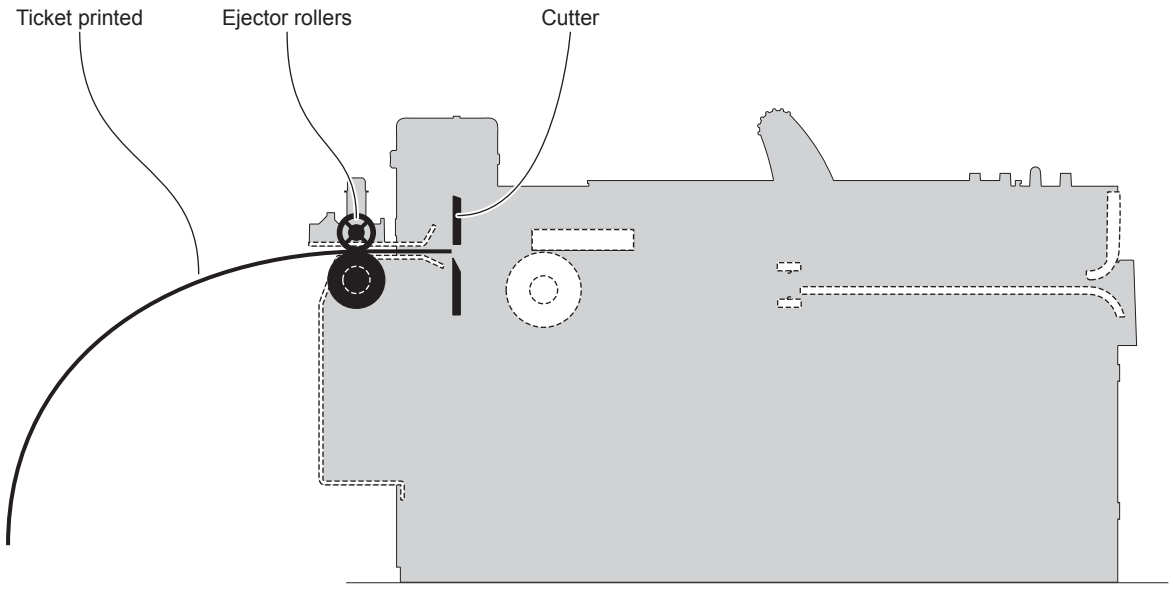
“EJECT” mode (models with ejector device)

1



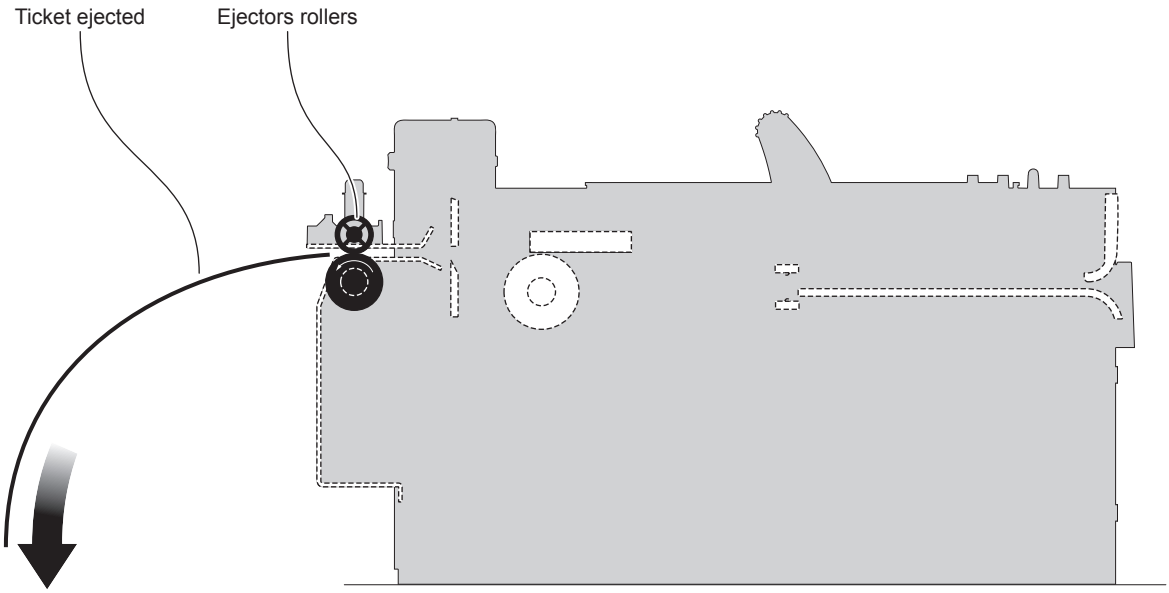
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed
and hold it between the ejector rollers.

3

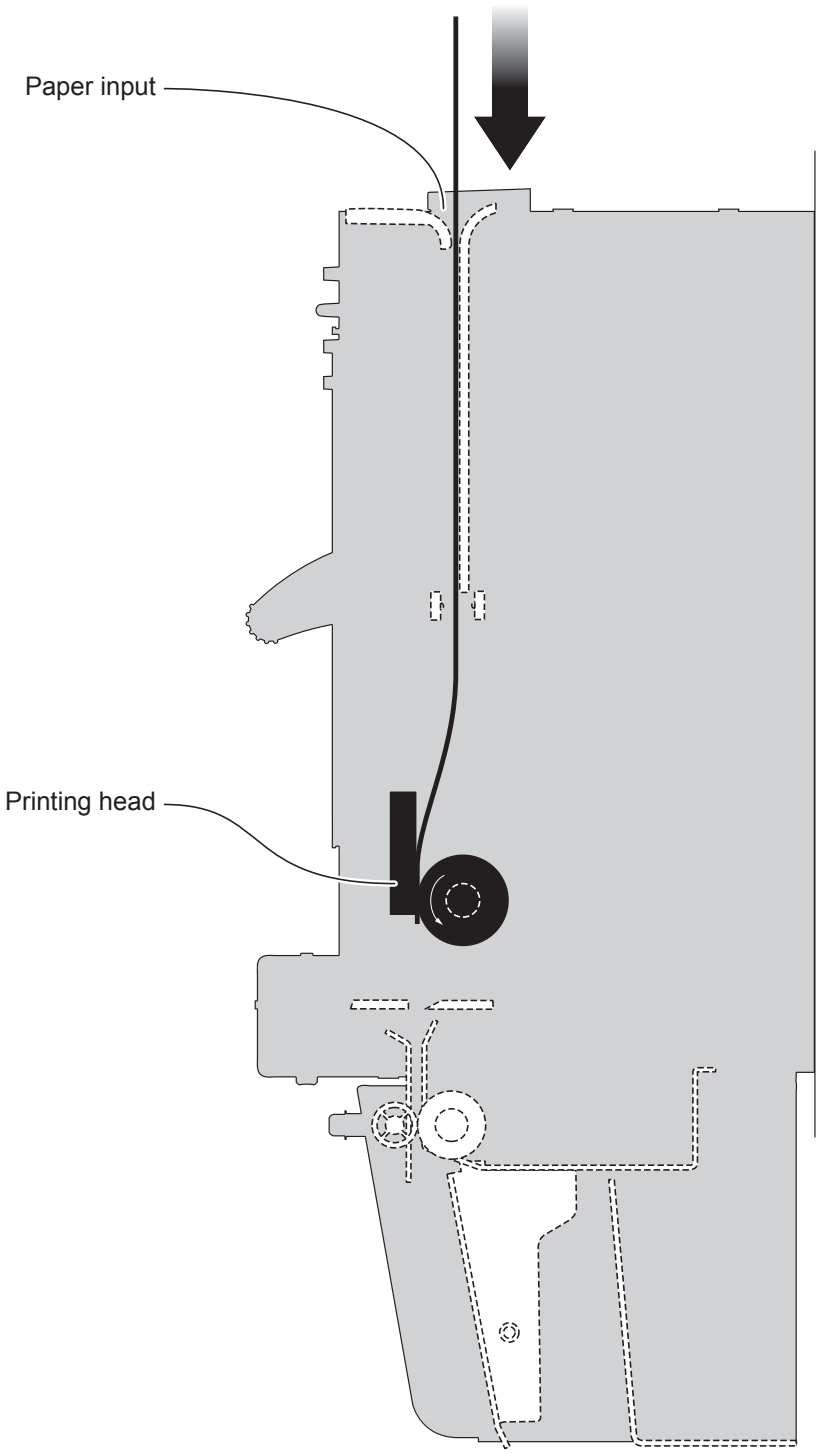


The device ejects the ticket printed.

NOTE:
To enable this issuing method, you need to correctly set the operation mode of the ejector device with the command 0x1D 0x65 0x05 (see the Commands Manual for the device).

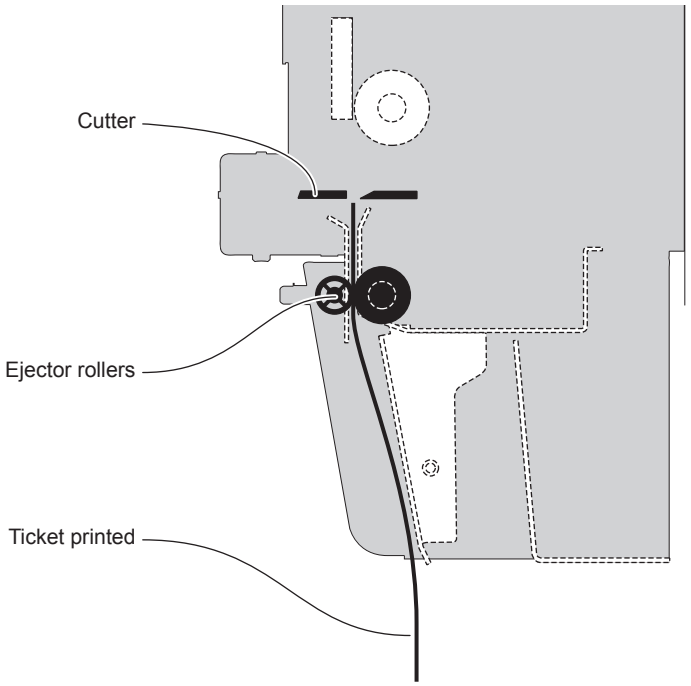
“PRESENT” mode (models with selector for vertical fixing)

1



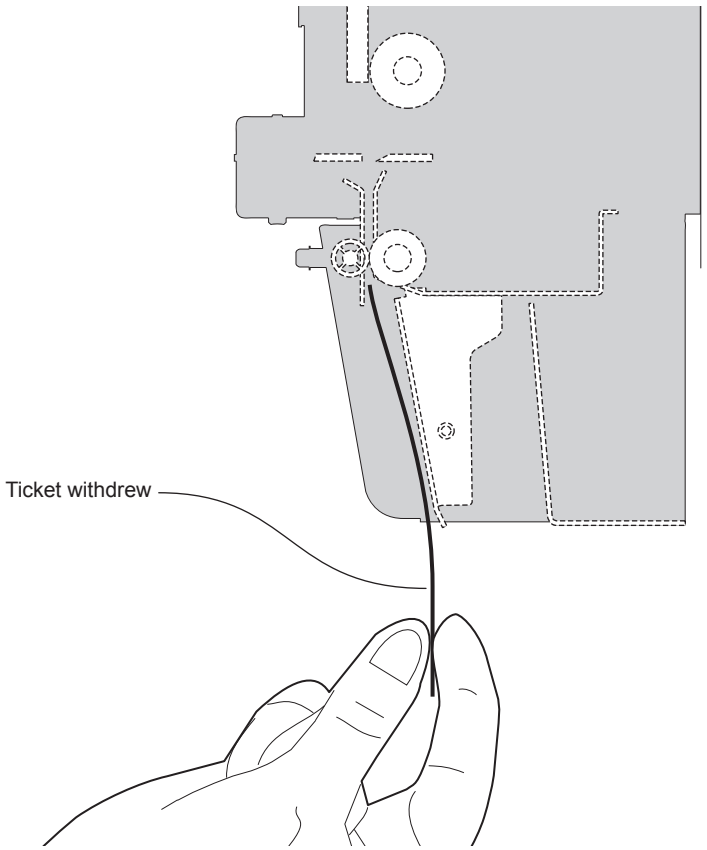
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed
and hold it between the ejector rollers.

3

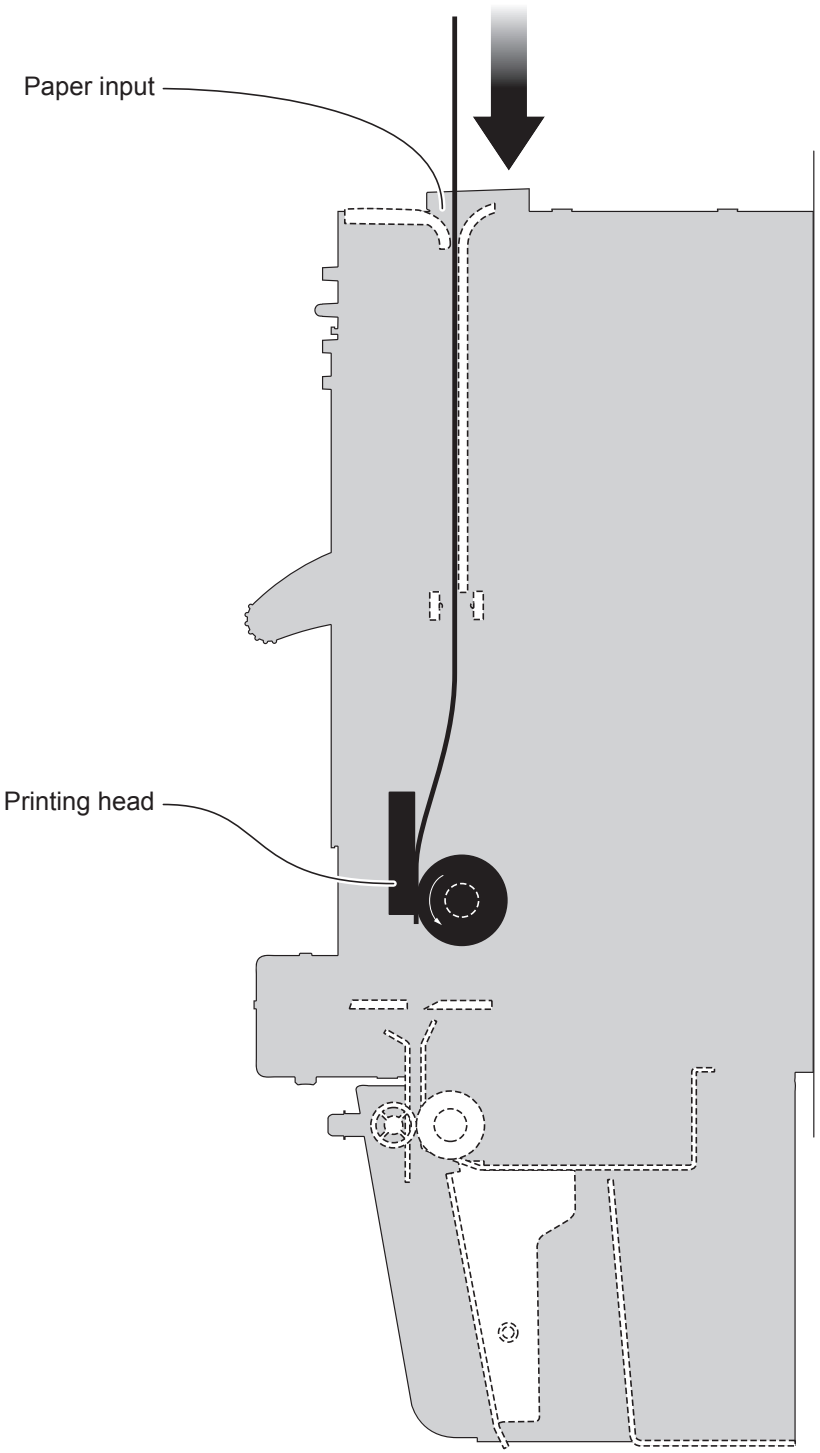


The user withdraws the ticket printed.

NOTE:
To enable this issuing method, you need to correctly set the operation mode of the selector device with the command 0x1D 0x70 0x6F (see the Commands Manual for the device)

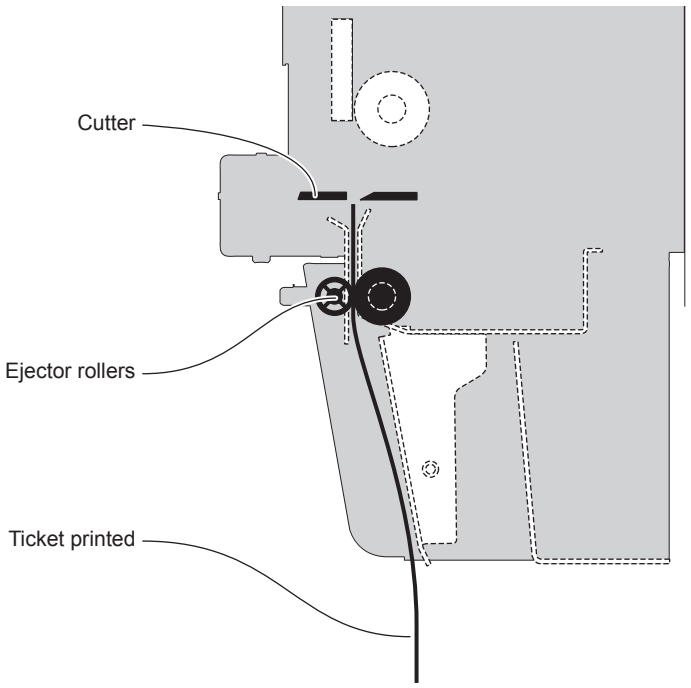
“PRESENT” mode (models with selector for vertical fixing)

1



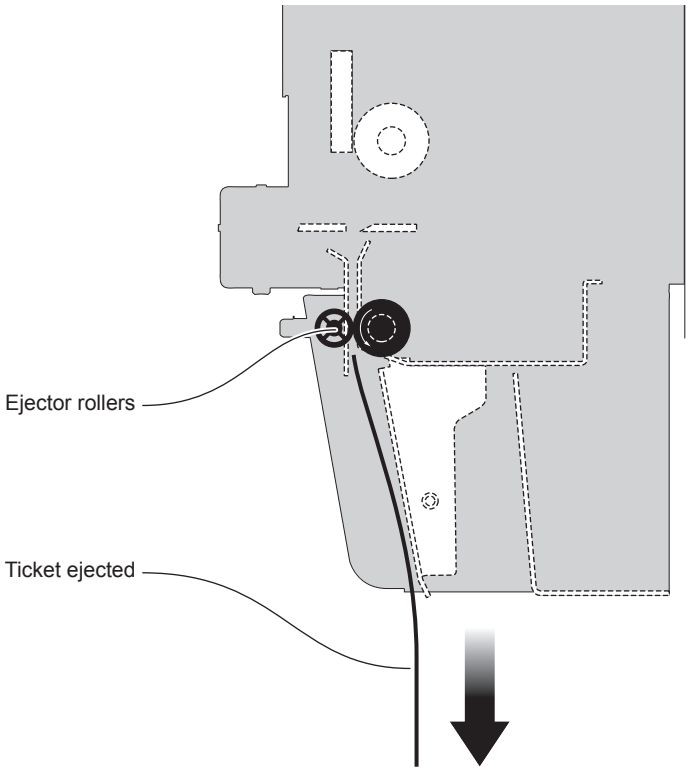
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed and hold it between the ejector rollers.

3

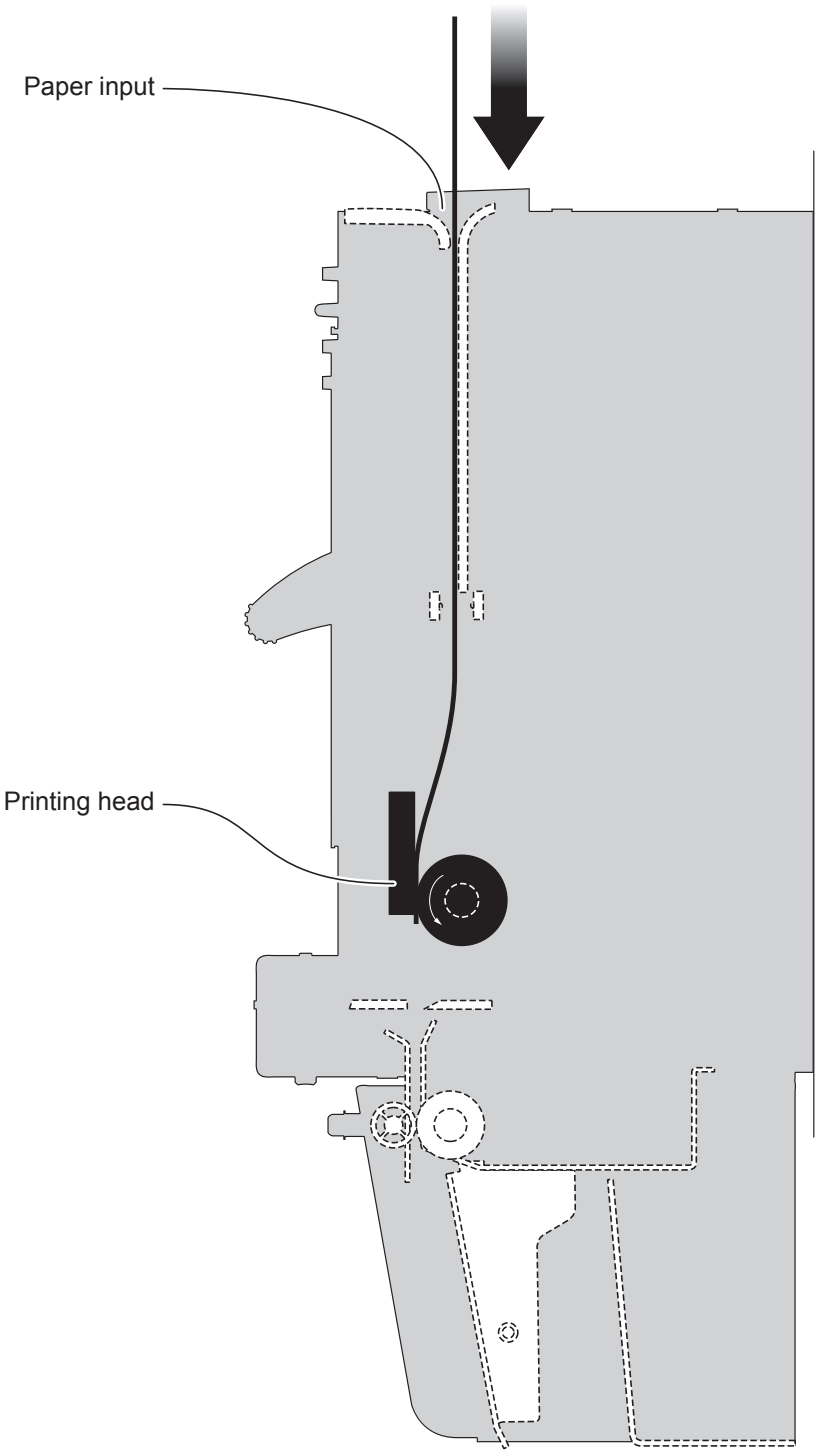


The device ejects the ticket printed.

NOTE: To enable this issuing method, you need to correctly set the operation mode of the selector device with the commands 0x1D 0x70 0x6F and 0x1D 0x65 0x05 (see the Commands Manual for the device)

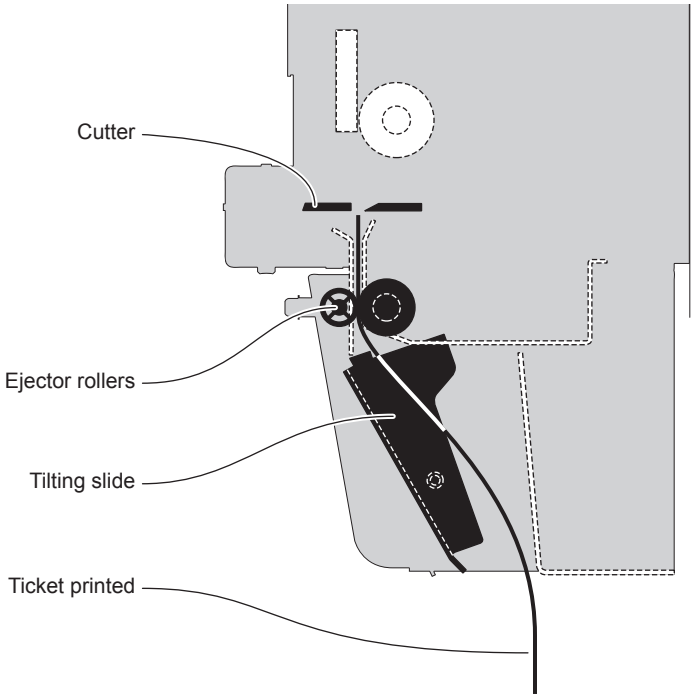
“PRESENT” mode (models with selector for vertical fixing)

1



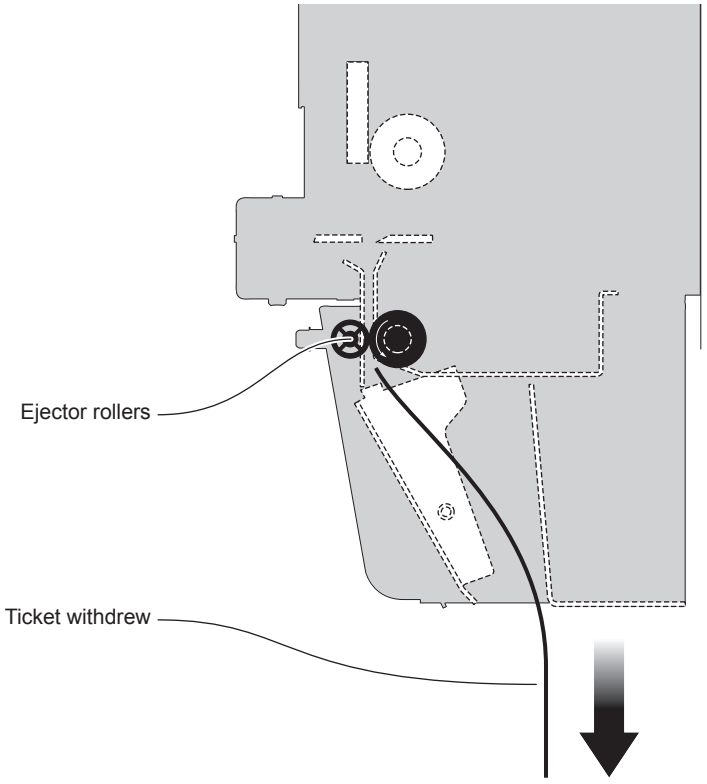
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed and hold it between the ejector rollers. The tilting slide is lifted and the ticket printed is driven into the ejection canal.

3

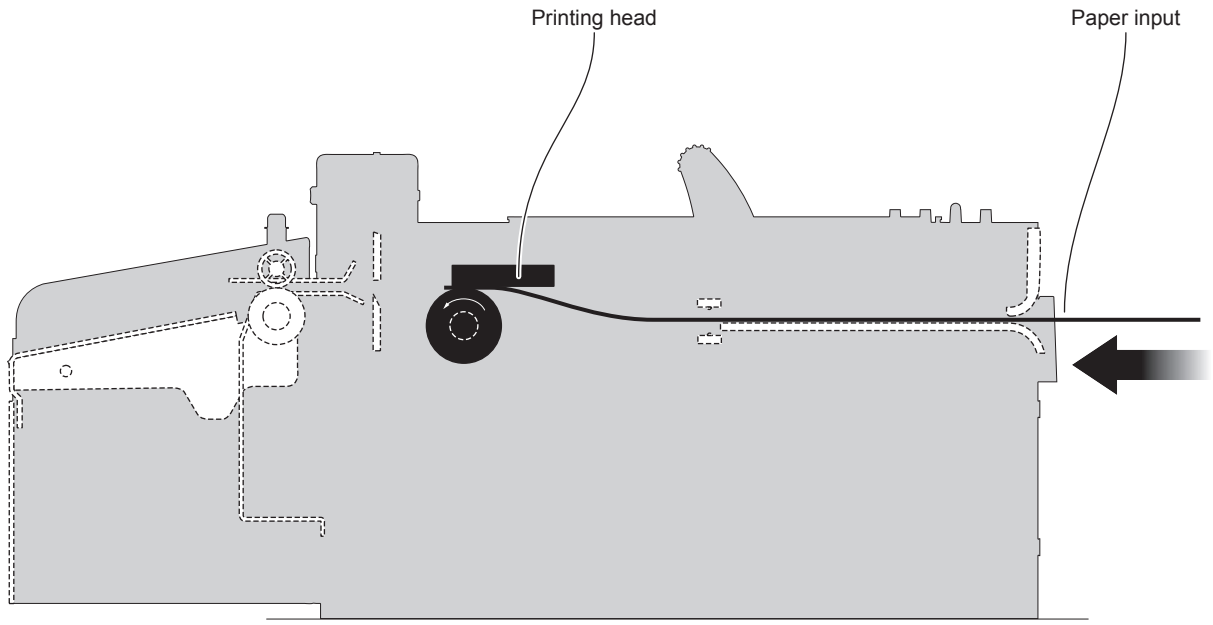


The device collects the ticket printed.

NOTE: To enable this issuing method, you need to correctly set the operation mode of the selector device with the commands 0x1D 0x70 0x6F and 0x1D 0x65 0x05 (see the Commands Manual for the device)

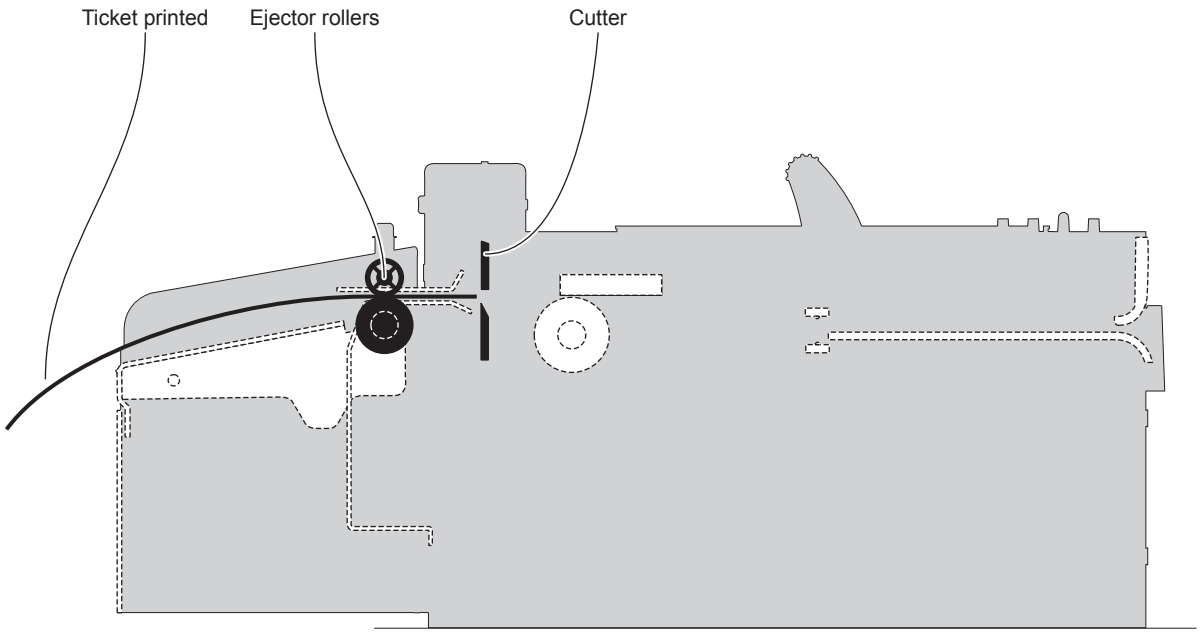
“PRESENT” mode (models with selector accessory for horizontal fixing)

1



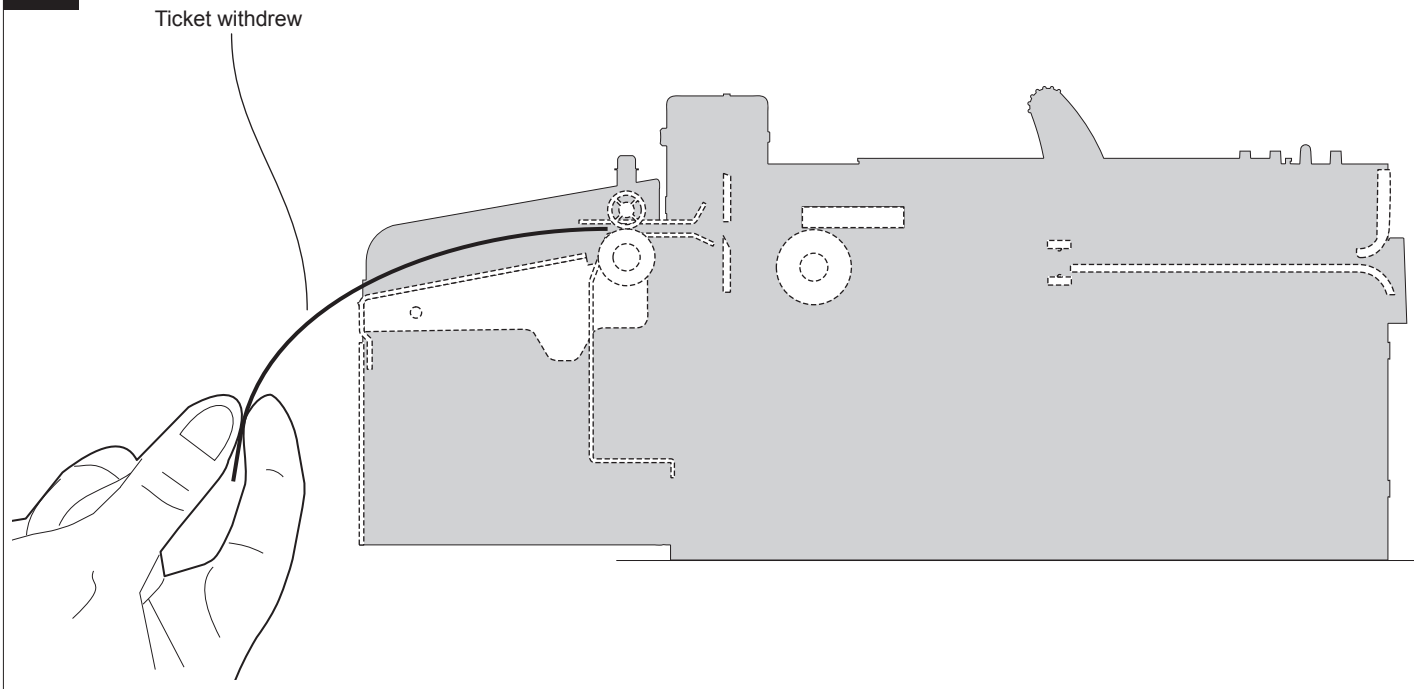
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed
and hold it between the ejector rollers.

3

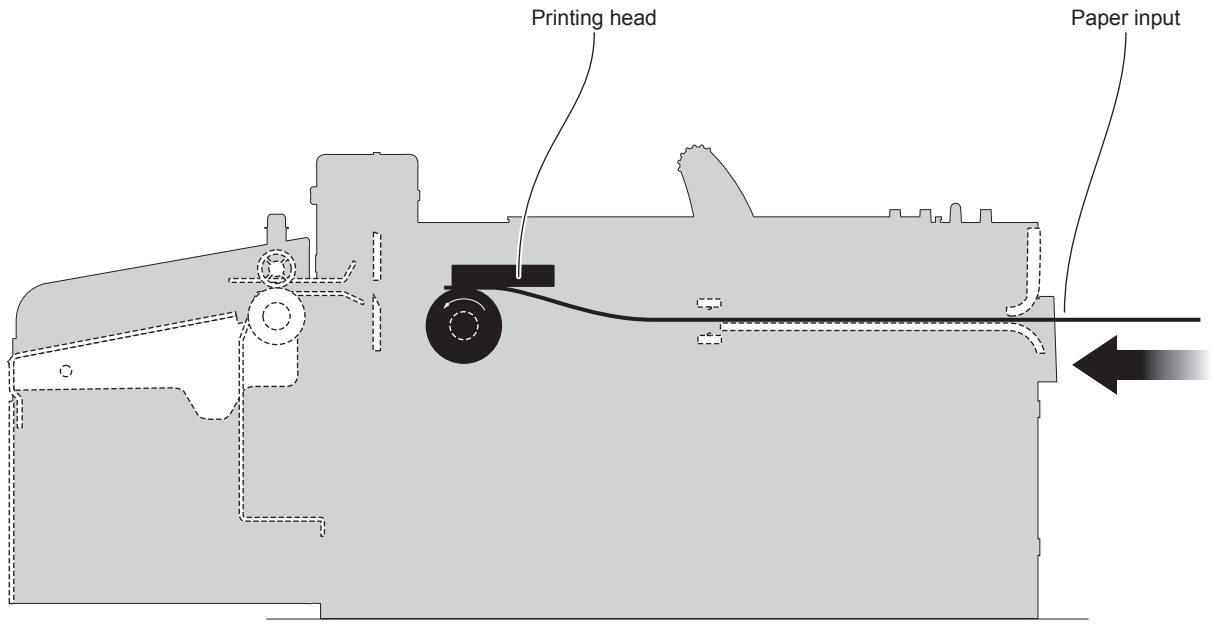


The user withdraws the ticket printed.

NOTE: To enable this issuing method, you need to correctly set the operation mode of the selector device with the command 0x1D 0x70 0x6F (see Commands Manual for the device)

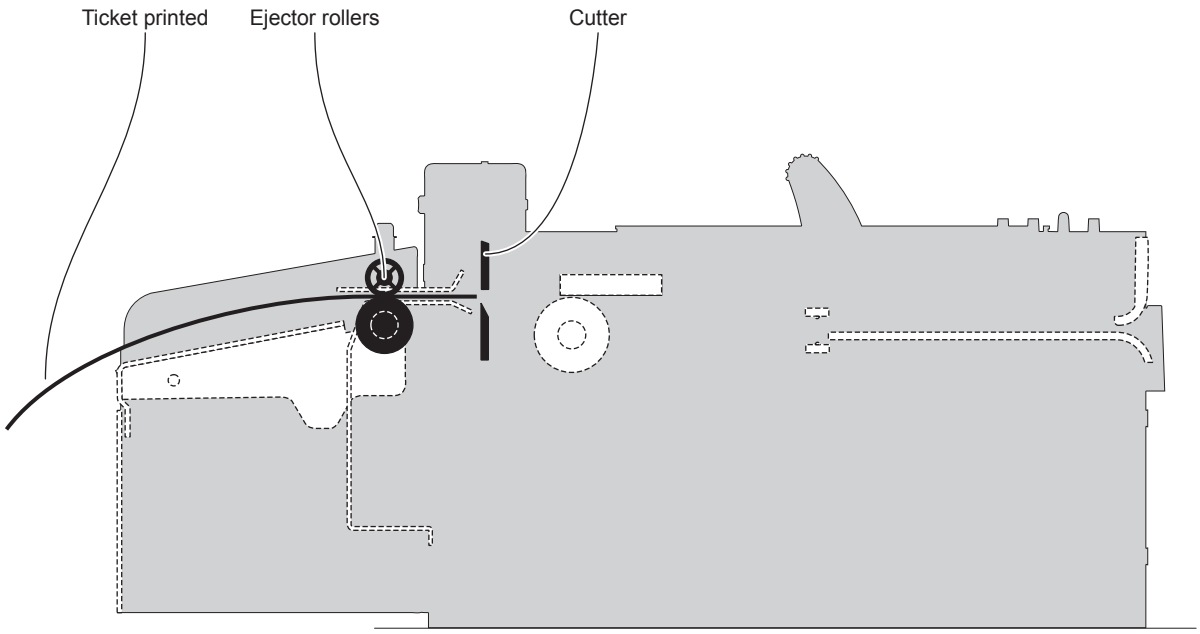
“EJECT” mode (models with selector accessory for horizontal fixing)

1



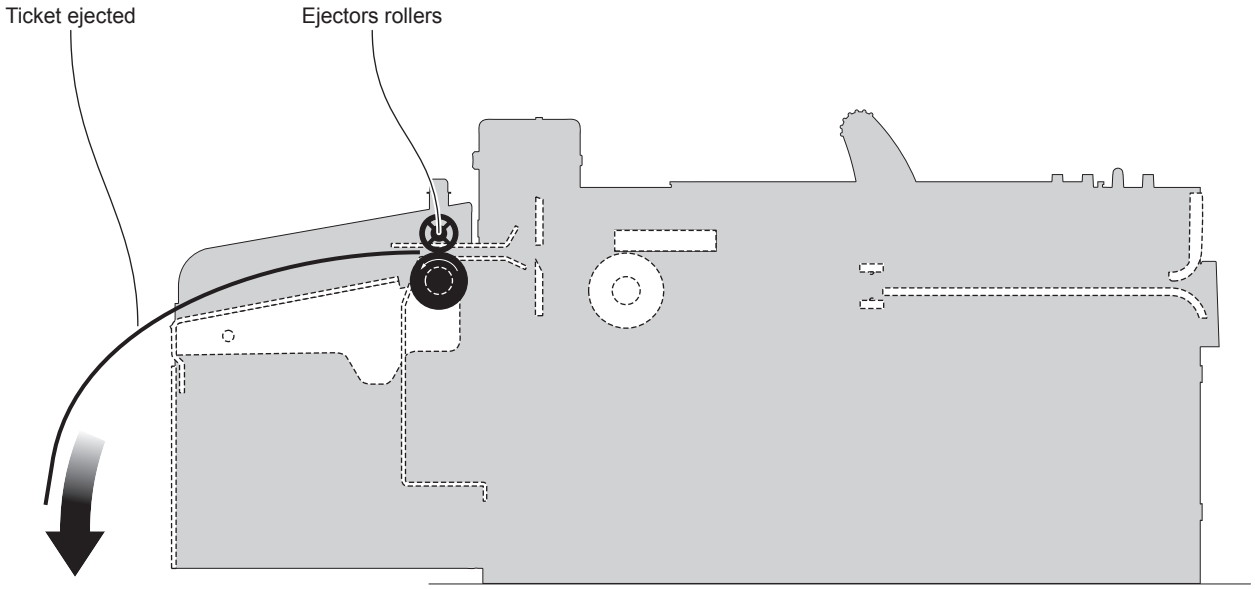
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed
and hold it between the ejector rollers.

3

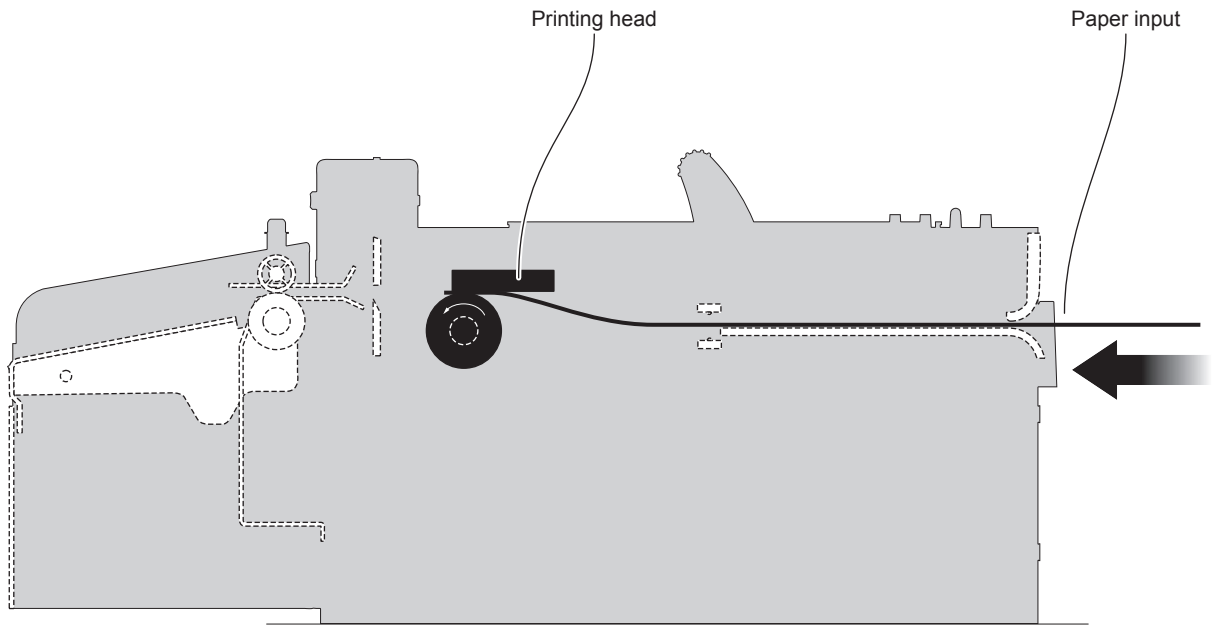


The device ejects the ticket printed.

NOTE: To enable this issuing method, you need to correctly set the operation mode of the selector device with the commands 0x1D 0x70 0x6F and 0x1D 0x65 0x05 (see the Commands Manual for the device)

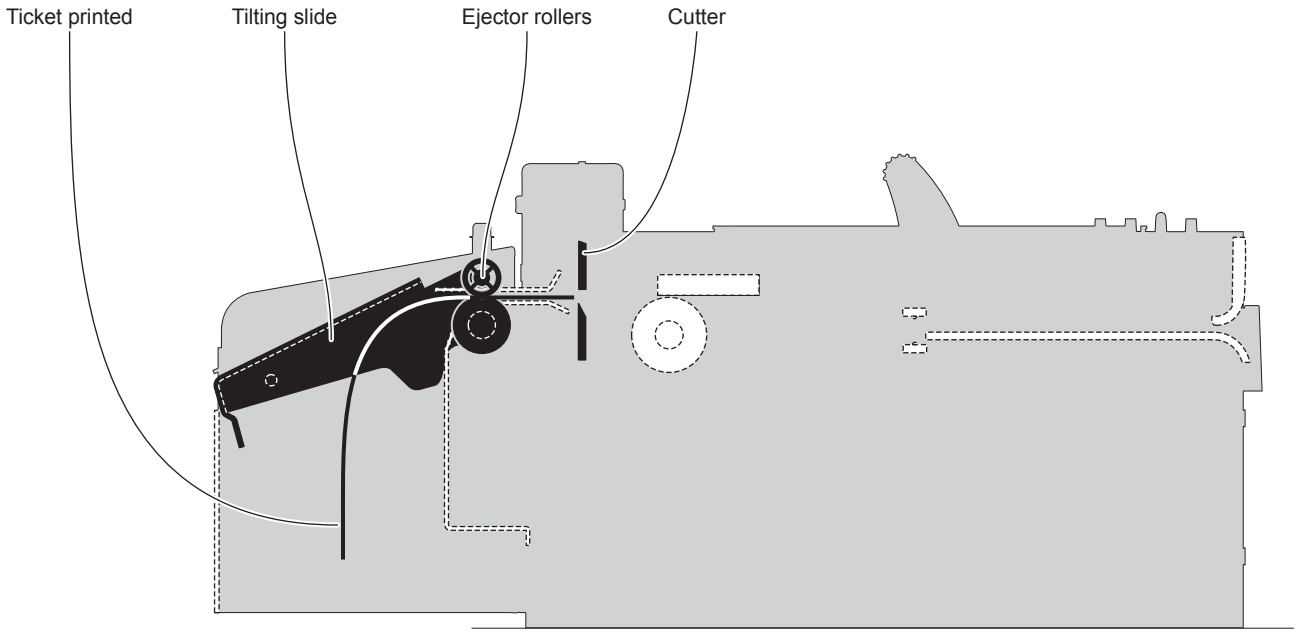
“COLLECT” mode (models with selector accessory for horizontal fixing)

1



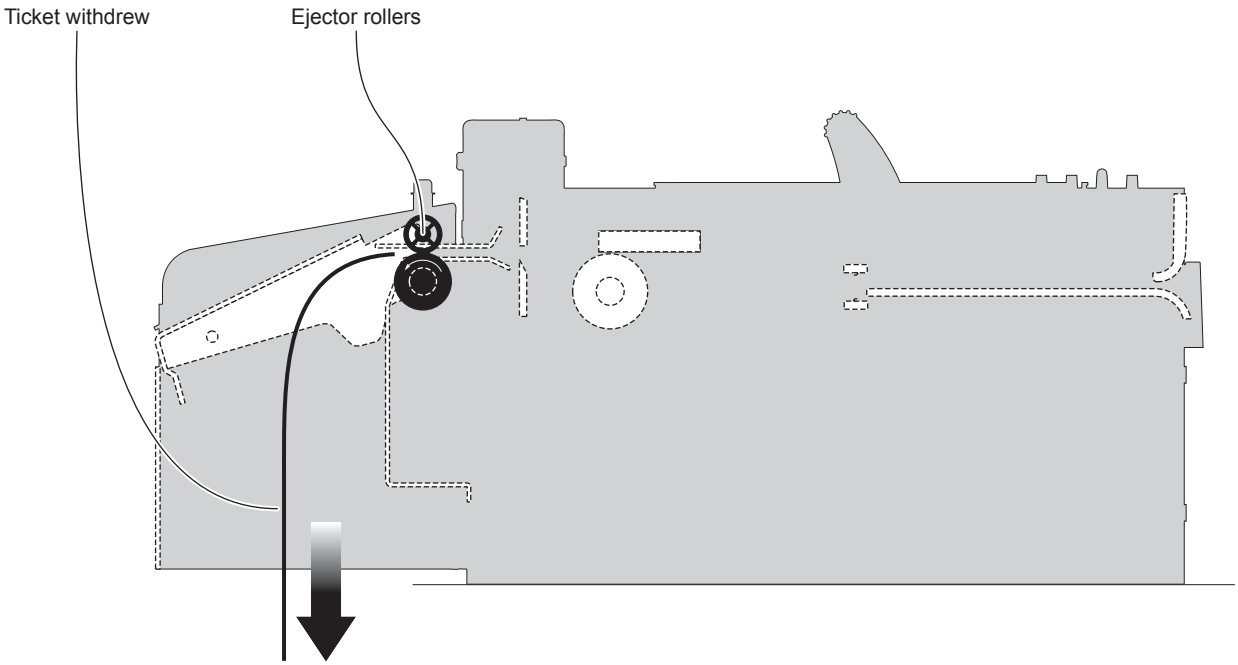
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket printed and hold it between the ejector rollers.
The tilting slide is lifted and the ticket printed is driven into the ejection canal.

3



The device collects the ticket printed.

NOTE: To enable this issuing method, you need to correctly set the operation mode of the selector device with the commands 0x1D 0x70 0x6F and 0x1D 0x65 0x05 (see the Commands Manual for the device)

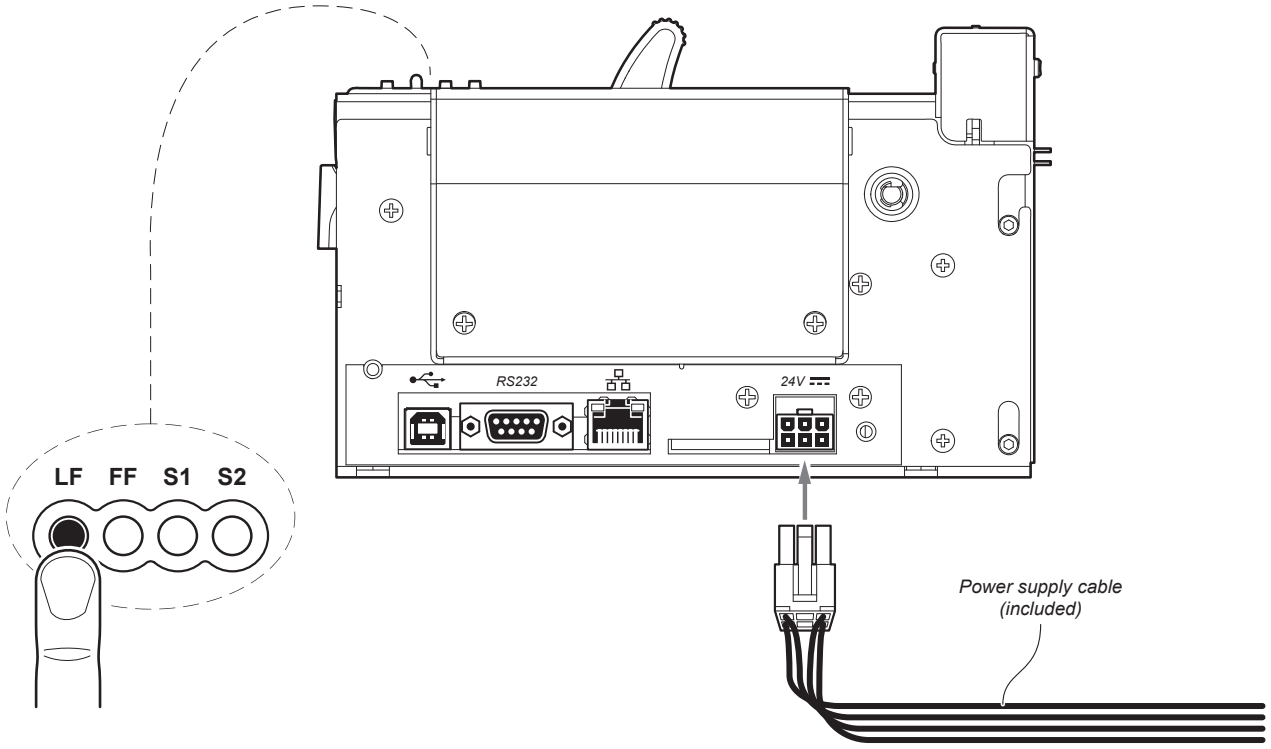
5 CONFIGURATION

5.1 Configuration mode

To enter the configuration mode and print a SETUP report with the operating parameters of the device, proceed as follows.

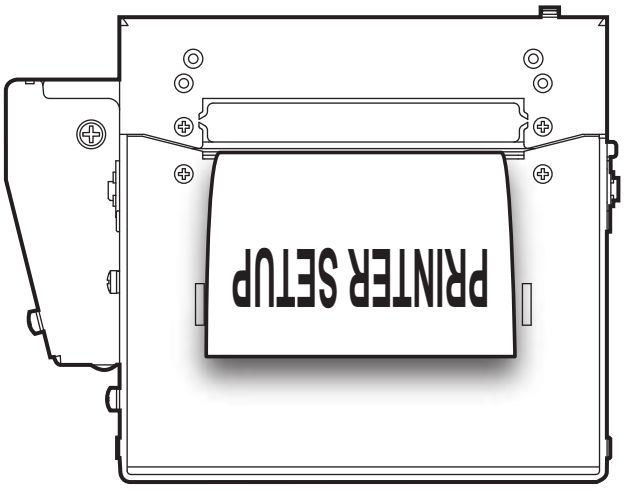
KPM302, KPM303

1



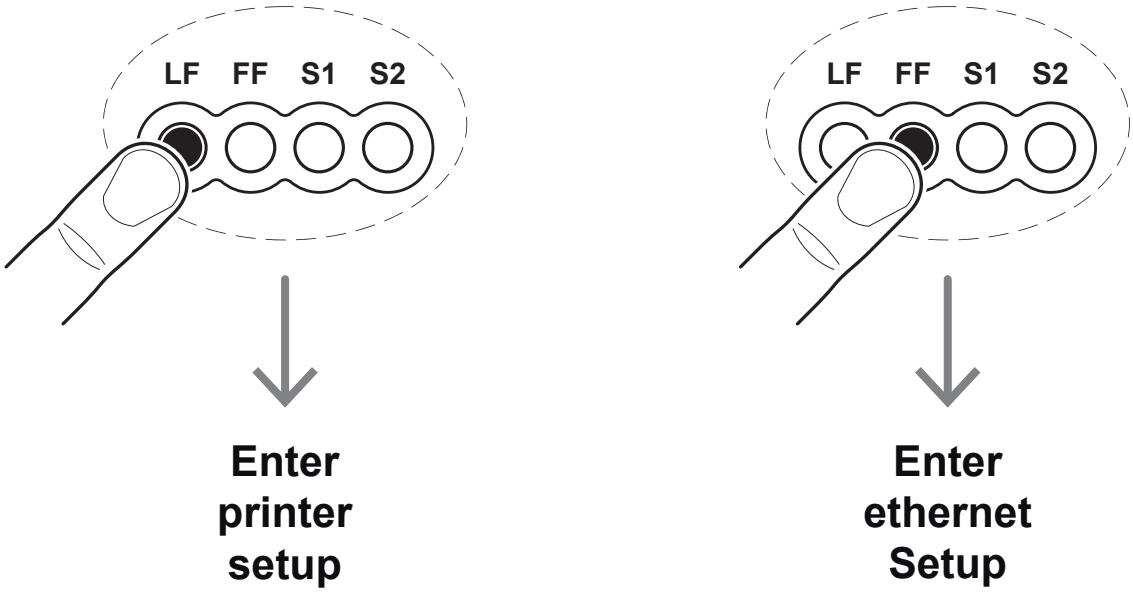
While pressing the LF LINE FEED key,
switch on the device by connecting the power supply cable.

2



The device prints the report with
the settings parameters.

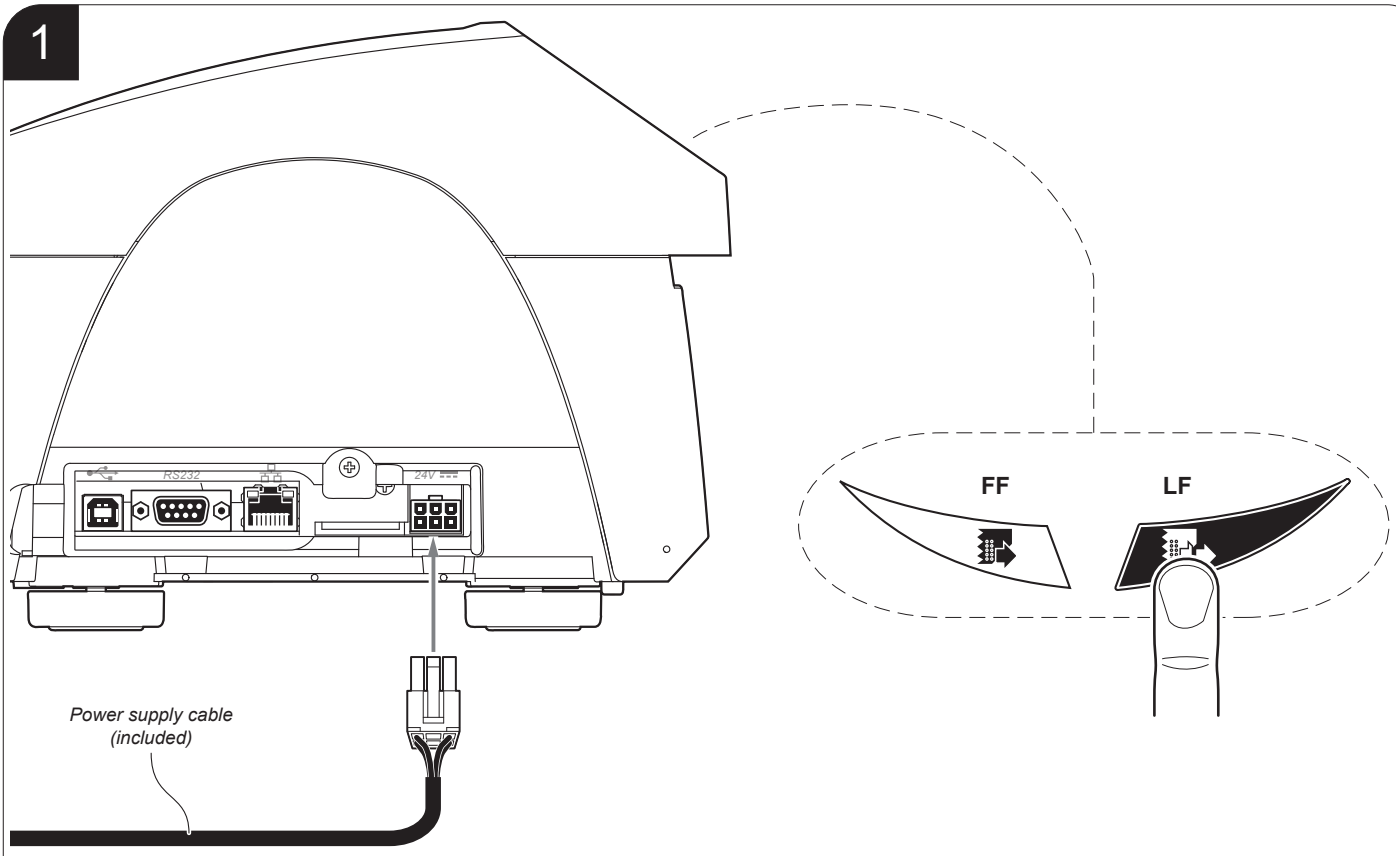
3



Press the LF LINE FEED key to enter the configuration mode
or press the FF FORM FEED key to print the SETUP report with the Ethernet parameters.

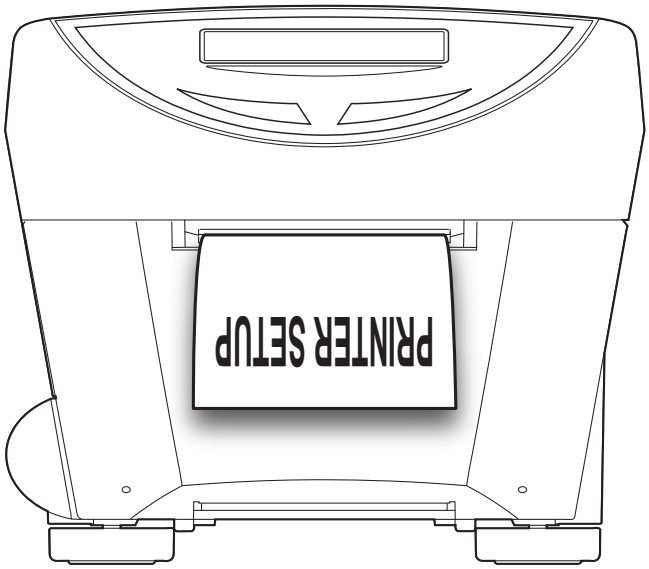
TK302, TK303

1



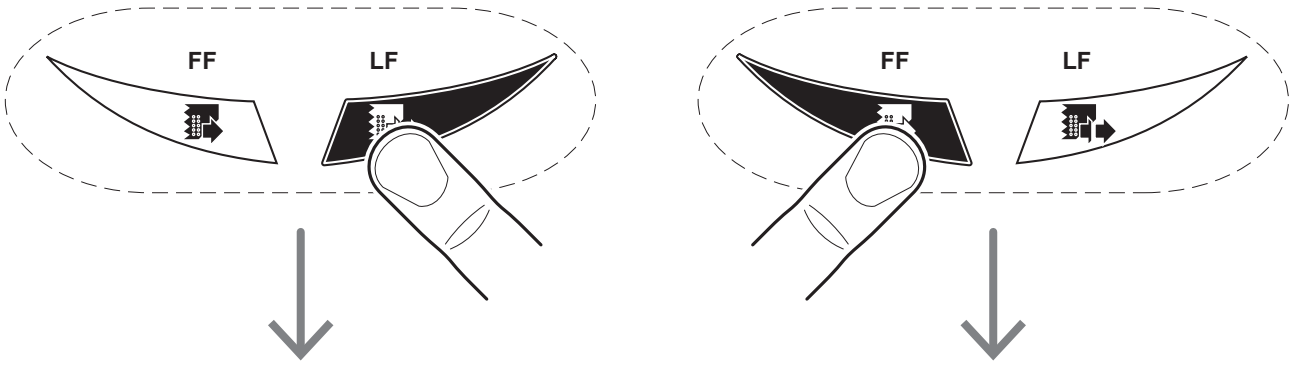
While pressing the LF LINE FEED key,
switch on the device by connecting the power supply cable.

2



The device prints the report with
the settings parameters.

3



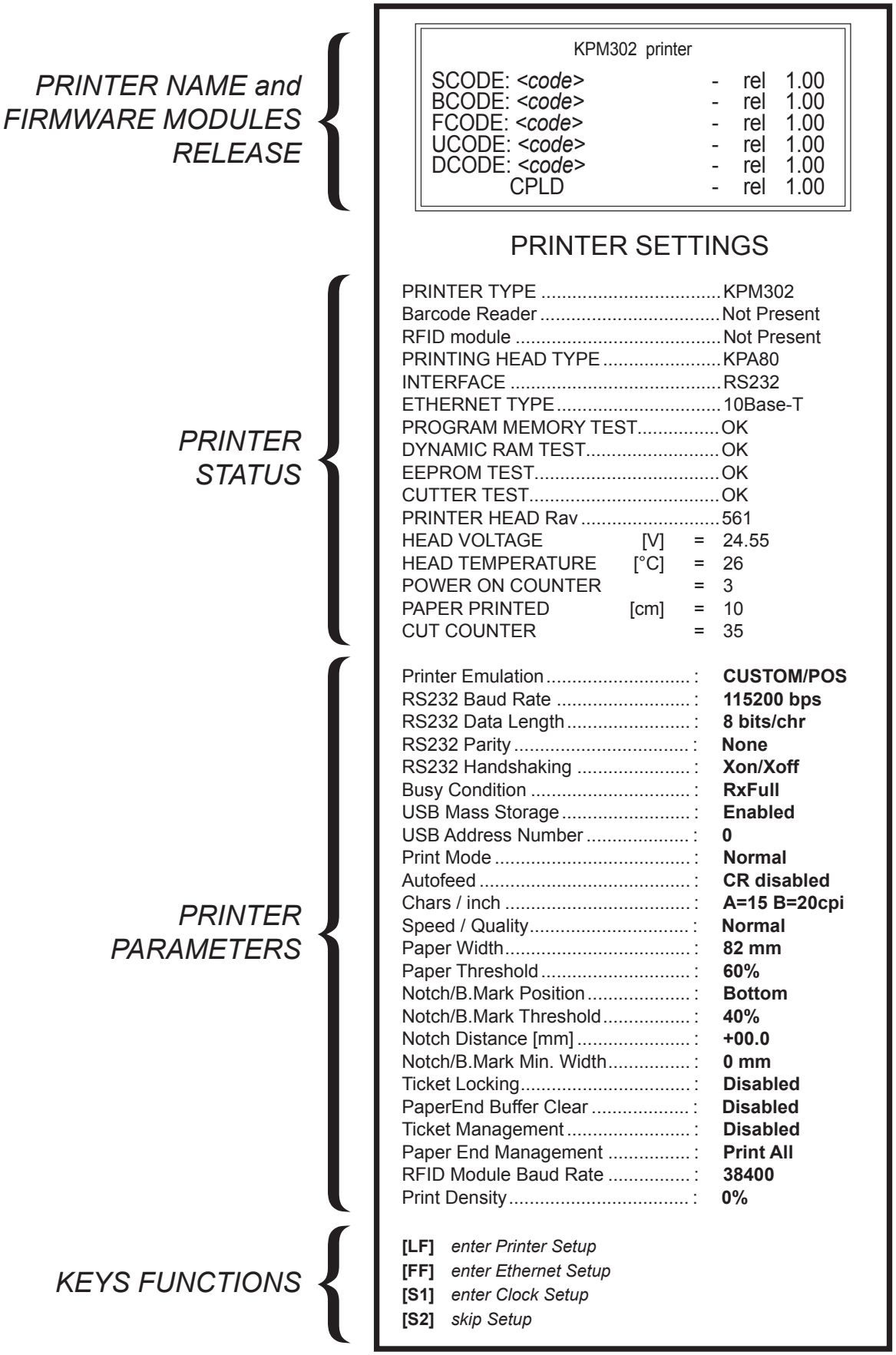
Enter printer setup

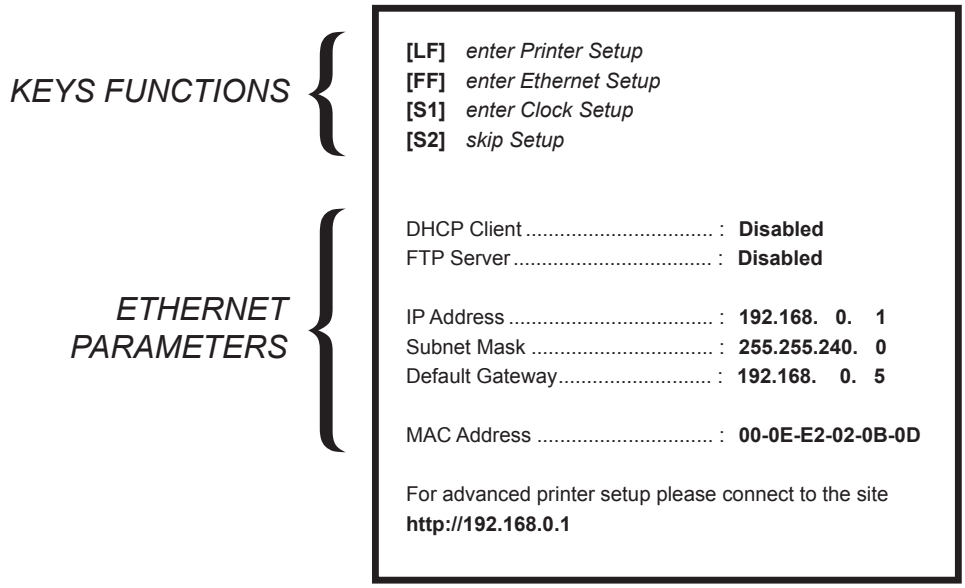
Enter ethernet Setup

Press the LF LINE FEED key to enter the configuration mode
or press the FF FORM FEED key to print the SETUP report with the Ethernet parameters.

5.2 Setup report

The following figures show the setup reports of the device.





The shown values for parameters are sample values; for the list and the description of device parameters see the following paragraphs.

5.3 Printer status

The device operating status is indicated in the configuration print-out in which, next to the name of the components displayed, the following information is given:

PRINTER TYPE	*device model*
Barcode Reader	*presence of the barcode reader*
RFID module	*presence of the RFID reader/writer*
PRINTING HEAD TYPE	*print head model*
INTERFACE	*interface present*
ETHERNET TYPE	*Ethernet connection type*
PROGRAM MEMORY TEST	*OK appears if functioning and NOT OK if faulty*
DYNAMIC RAM TEST	*OK appears if functioning and NOT OK if faulty*
EEPROM TEST	*OK appears if functioning and NOT OK if faulty*
CUTTER TEST	*OK appears if functioning and NOT OK if faulty*
PRINTER HEAD Rav	*resistance of a dot head*
HEAD VOLTAGE	*voltage of the head*
HEAD TEMPERATURE	*temperature of the head*
POWER ON COUNTER	*number of power-ups made*
PAPER PRINTED	*centimetres of paper printed*
CUT COUNTER	*number of cuts made*

5.4 Printer parameters

These devices allow the configuration of the parameters listed in the following table.
The parameters marked with the symbol [D] are the default values.
Settings remain active even after the device has been turned off and they are stored in non-volatile memory.

PRINTER EMULATION	*Available emulations for the device:* *SVELTA [D]* *CUSTOM/POS*
RS232 BAUD RATE	*Communication speed of the serial interface:* *115200 [D]* *9600* *57600* *4800* *38400* *2400* *19200* *1200* NOTE: Parameter valid only with serial interface.
RS232 DATA LENGTH	*Number of bit used for characters encoding:* *7 bits/car* *8 bits/car [D]* NOTE: Parameter valid only with serial interface.
RS232 PARITY	*Bit for the parity control of the serial interface:* *None [D] = parity bit omitted* *Even = even value for parity bit* *Odd = odd value for parity bit* NOTE: Parameter valid only with serial interface.
RS232 HANDSHAKING	*Handshaking:* *XON/XOFF [D] = software handshaking* *Hardware = hardware handshaking (CTS/RTS)* NOTE: Parameter valid only with serial interface.
BUSY CONDITION	*Activation mode for Busy signal:* *OffLine/ RXFull = Busy signal is activated when the device is both in OffLine status and the buffer is full* *RXFull [D] = Busy signal is activated when the buffer is full* NOTE: Parameter valid only with serial interface.

USB MASS STORAGE

Sharing mode from Mass Storage:

Disabled = sharing mode disabled
Enabled [D] = sharing mode enabled

USB ADDRESS NUMBER

Numerical address code for the univocal identification of the USB device (in case of more than a USB device connected with the same PC):

0 [D]	*2*	*4*	*6*	*8*
1	*3*	*5*	*7*	*9*

PRINT MODE

Printing mode:

Normal [D] = enables printing in normal writing way
Reverse = enables printing rotated 180 degrees

AUTOFEED

Setting of the Carriage Return character:

CR disabled [D] = Carriage Return disabled
CR enabled = Carriage Return enabled

NOTE: the parameter is printed only with CUSTOM/POS emulation enabled.

CHARS / INCH

Font selection:

KPM302, TK302	**KPM303, TK303**
A = 11 cpi, B = 15 cpi [D]	*A = 16 cpi, B = 23 cpi [D]*
A = 15 cpi, B = 20 cpi	*A = 23 cpi, B = 30 cpi*

NOTES:
CPI = Characters Per Inch
The parameter is printed only with CUSTOM/POS emulation enabled.

SPEED / QUALITY

Setting of printing speed and printing quality:

Normal
High Quality
High Speed [D]

PRINT WIDTH

Width of printing area:

20 mm	*34 mm*	*48 mm*	*62 mm*	*76 mm*
22 mm	*36 mm*	*50 mm*	*64 mm*	*78 mm*
24 mm	*38 mm*	*52 mm*	*66 mm [D]*	*80 mm*
26 mm	*40 mm*	*54 mm*	*68 mm*	*82 mm*
28 mm	*42 mm*	*56 mm*	*70 mm*	
30 mm	*44 mm*	*58 mm*	*72 mm*	
32 mm	*46 mm*	*60 mm*	*74 mm*	

PAPER THRESHOLD

Threshold value (in percent) for the recognition of the presence of paper by the paper presence sensor:

30%	*60% [D]*	*90%*
40%	*70%*	
50%	*80%*	

NOTCH/B.MARK POSITION

Position of the alignment notch and choice of appropriate notch sensor:

Disabled [D] = the notch alignment is not performed
Top = the notch position is detected by the upper sensor (reflection)
Bottom = the notch position is detected by the lower sensor (reflection)
Transparence = the notch position is detected by both the sensors (transparence)

NOTCH/B.MARK THRESHOLD

Threshold value (in percent) for the recognition of the presence of notch by the notch sensor:

30%	*70%*
40% [D]	*80%*
50%	*90%*
60%	

NOTE: If the “Notch/B.Mark Position” parameter is disabled, this parameter is not printed.

NOTCH DISTANCE

“Notch Distance” is the minimum distance (in mm) between the upper edge of ticket and the notch (see chapter 10).
The numeric value of the distance is made up with the following four parameters for the setting of three digits (two for the integer part of the number and one for the decimal part) and of the sign:

NOTCH DISTANCE SIGN

Sign setting:

+ [D] = positive distance
- = negative distance

NOTCH DISTANCE [mm x 10]

Setting the digit for tens:

0 [D]	*2*	*4*	*6*	*8*
1	*3*	*5*	*7*	*9*

NOTCH DISTANCE [mm x 1]

Setting the digit for units:

0 [D]	*2*	*4*	*6*	*8*
1	*3*	*5*	*7*	*9*

NOTCH DISTANCE [mm x .1]

Setting the digit for decimals:

0 [D]	*2*	*4*	*6*	*8*
1	*3*	*5*	*7*	*9*

NOTES:
For example, to set a positive notch distance value of 15mm, modify the parameters as follows:
Notch Distance Sign = +
Notch Distance [mm x 10] = 1
Notch Distance [mm x 1] = 5
Notch Distance [mm x .1] = 0

If the “Notch/B.Mark Position” parameter is disabled, the parameters for the “Notch Distance” are not printed.

NOTCH/B.MARK MIN. WIDTH

Minimum length for the alignment notch:

0 mm [D]	*5 mm*	*10 mm*	*15 mm*	*20mm*
1 mm	*6 mm*	*11 mm*	*16 mm*	
2 mm	*7 mm*	*12 mm*	*17 mm*	
3 mm	*8 mm*	*13 mm*	*18 mm*	
4 mm	*9 mm*	*14 mm*	*19 mm*	

NOTES: If the “Notch/B.Mark Position” parameter is disabled, this parameter is not printed.

This parameter describes the dimensions of the alignment notch in order to avoid that other graphics on the ticket is detected erroneously as notch.

TICKET LOCKING

This parameter enables/disables the block of the paper inside the device where the ticket is not cut with the cutter, but is presented for the manual tear off by the user:

Models without triple feeder

Disabled [D] = paper block disabled
Enabled = paper block enabled

Models with triple feeder

Disabled [D] = paper block disabled
By Printer = the motor remain switched on also at the printing end
By Feeder = stops the paper of the not active (idle) feeders in order to avoid that the paper parked in a idle feeder, is dragged inside the printer
Complete = ticket locking by printer and feeder (combination of the two previous effects)

NOTE: If the “Notch/B.Mark Position” parameter is disabled, the parameter is not printed.

PAPEREND BUFFER CLEAR

Cleaning mode of the data in receive buffer, if the printing is stopped due to lack of paper:

Disabled D = The data remain in the receive buffer. When the paper runs out, the device keeps the remaining data in the receive buffer and prints the remaining portion of the ticket after that the new paper is loaded.
Enabled = When the paper runs out, all data in the receive buffer are deleted.

TICKET MANAGEMENT

This parameter allows the ticket management:

Disabled [D] = no check
Short Ticket = it is possible to manage tickets with length less than the distance between the notch sensor and the printing line
Check First = before printing, the device checks the integrity of the first ticket

PAPER END MANAGEMENT

Models with triple feeder

Management of the paper end sensors of triple feeder:

Print All [D] = when the paper end sensor of a feed line of the triple feeder detects the paper end, it is not possible to change the feed line until all tickets remaining in that feed line are printed (so that the paper sensors of the printer will have detected the end of paper)

Eject = when the paper end sensor of a feed line of the triple feeder detects the paper end, the device automatically ejects the paper remaining on that feed line and prints diagonal voiding lines on the remaining tickets

Retract = when the paper end sensor of a feed line of the triple feeder detects the paper end, the device performs a paper retracting up to the parking position

RFID MODULE BAUD RATE

Communication speed of the RFID module:

115200	*38400 [D]*	*9600*	*2400*
57600	*19200*	*4800*	*1200*

NOTE: if the RFID module is not recognized in the printer status (“RFID module = Not Present”), set this parameter on the correct value.

PRINT DENSITY

Adjusting the printing density:

-50%	*-12%*	*+25%*
-37%	*0 [D]*	*+37%*
-25%	*+12%*	*+50%*

5.5 Ethernet parameters

These devices allow the configuration of the parameters listed in the following table.
The parameters marked with the symbol [D] are the default values.
Settings remain active even after the device has been turned off and they are stored in non-volatile memory.

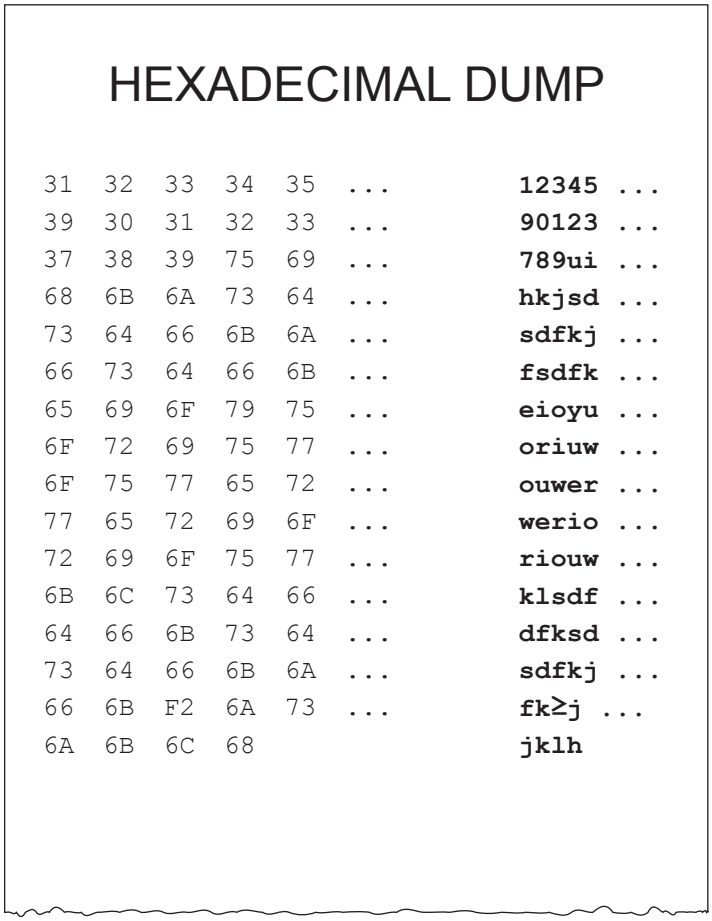
DHCP CLIENT	*Setting of the DHCP protocol:* *Disabled [D] = protocol disabled* *Enabled = protocol enabled*
FTP SERVER	*Setting of the FTP server:* *Disabled [D] = server disabled* *Enabled = server enabled*
IP ADDRESS	*IP address of device; this parameter is assigned by the network administrator.* NOTE: Press the FEED key to modify the value of the highlighted digit. Pressing OPEN key to move the cursor on the next digit (if the cursor is on the latest digit, proceed to next parameter by pressing the OPEN key).
SUBNET MASK	*This parameter identifies the local network address.* NOTE: Press the FEED key to modify the value of the highlighted digit. Pressing OPEN key to move the cursor on the next digit (if the cursor is on the latest digit, proceed to next parameter by pressing the OPEN key).
DEFAULT GATEWAY	*This parameter identifies the Gateway IP address used to send applications to the external network.* NOTE: Press the FEED key to modify the value of the highlighted digit. Pressing OPEN key to move the cursor on the next digit (if the cursor is on the latest digit, proceed to next parameter by pressing the OPEN key).
MAC ADDRESS	*This is the number, provided by the constructor, that identifies the device; this number is univocal.* NOTE: This parameter can't be modified by set up.

ATTENTION:
Any changes to network parameters will interrupt browser connection. If the server not responding you must reconnect to the new IP address set.

5.6 Hexadecimal dump

This function is used for the diagnosis of the characters received from the communications port. Characters are printed as hexadecimal code and the corresponding ASCII code (see below). Each line is preceded by a counter in hexadecimal that indicates the number of bytes received.

During the startup, if you hold down the FEED key, the device enters the self-test routine and print the setup report.
The device remains in standby until a key is pressed or characters are received through the communication port (Hexadecimal Dump mode). For each character sent, the ticket shows the hexadecimal value and the ASCII codes (if the characters are underlined, the receive buffer is full). Shown below is an example of a Hexadecimal Dump:

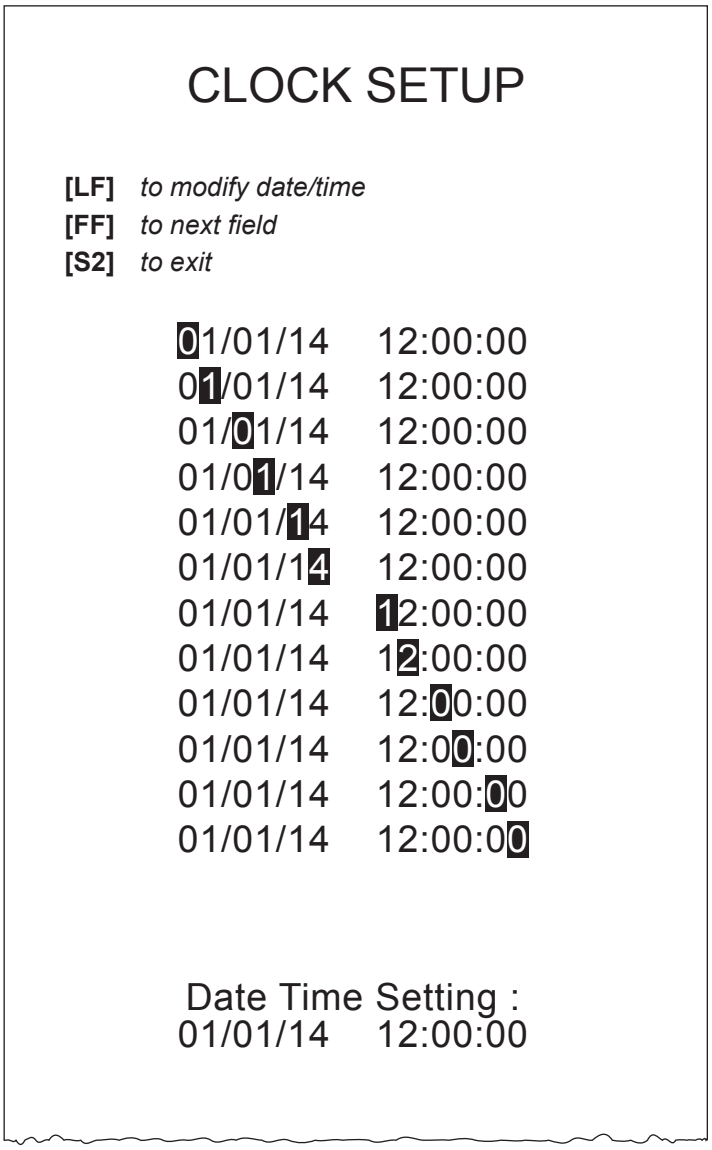


5.7 Calendar clock

The devices are equipped with a Real Time Clock. During power-up, held down the LF LINE FEED key to enter in the device configuration mode. Press the S1 key to enter in the clock configuration (see following figure).
Press the LF LINE FEED key to modify date/time; the device will print the updated date and time.

Follow the instructions printed on the paper for the key functionality. The highlighted digit (the number is written in negative mode) indicates the digit to be modified. Press the LF LINE FEED key to modify the value of the highlighted digit; every single LF LINE FEED key pressure increases of 1 his value. Once the value 9 is reached the counting starts again from 0.

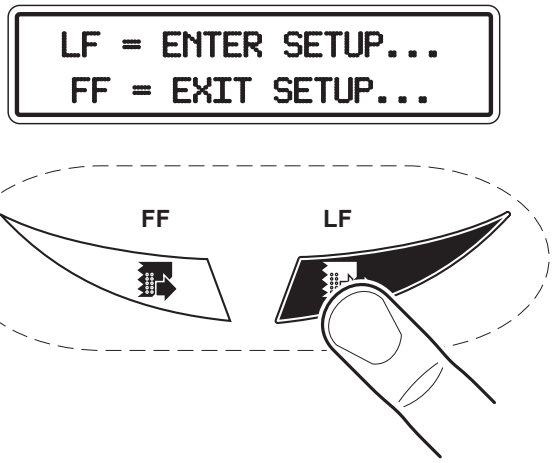
Press the FF FORM FEED key to move the cursor on the next digit; if the cursor position is on the latest digit you can proceed to next parameter by pressing the FF FORM FEED key again.
Press the S2 key to exit and terminate the setting procedure.



TK302, TK303

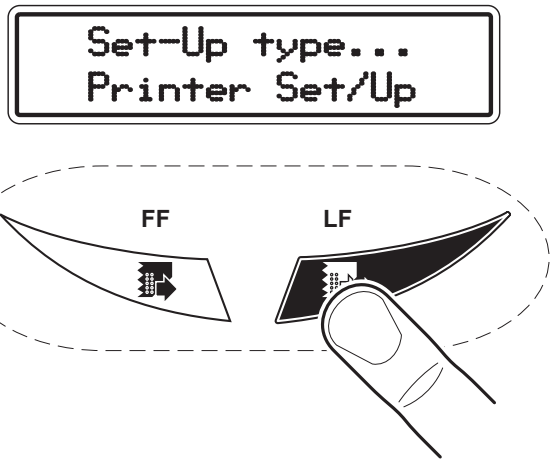
The devices are equipped with a Real Time Clock. Proceed as follows to set the clock.

1



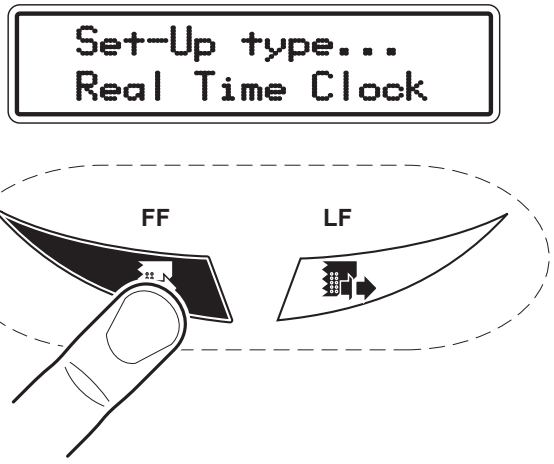
During power-up, press the LF LINE FEED key
to enter the setup configuration.

2



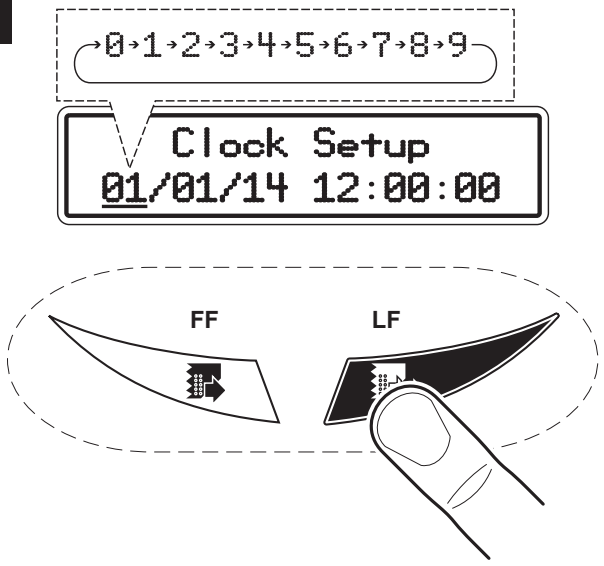
Press the LF LINE FEED key
to select the Real Time Clock settings.

3



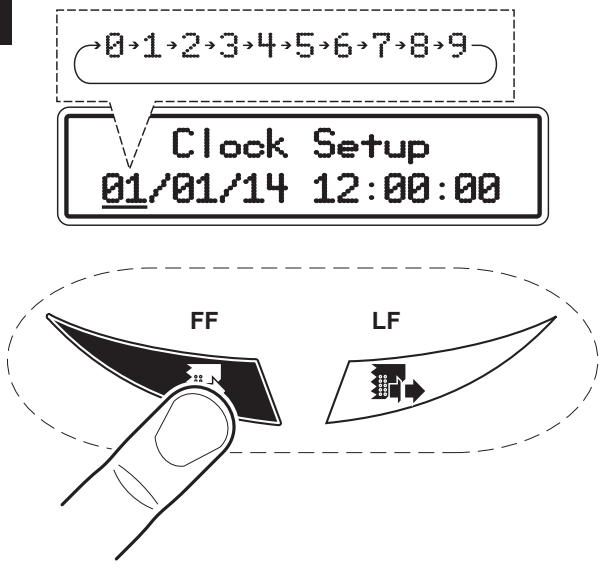
Press the FF FORM FEED key to confirm the selection.
The date/time values will be displayed.
Follow the instructions printed on the paper.

4



The digit to be modified is highlighted.
Press the LF LINE FEED key to modify the value;
every press on the button increases the value by one.
Once the max selectionable value is reached the
counting starts again from 0.

5

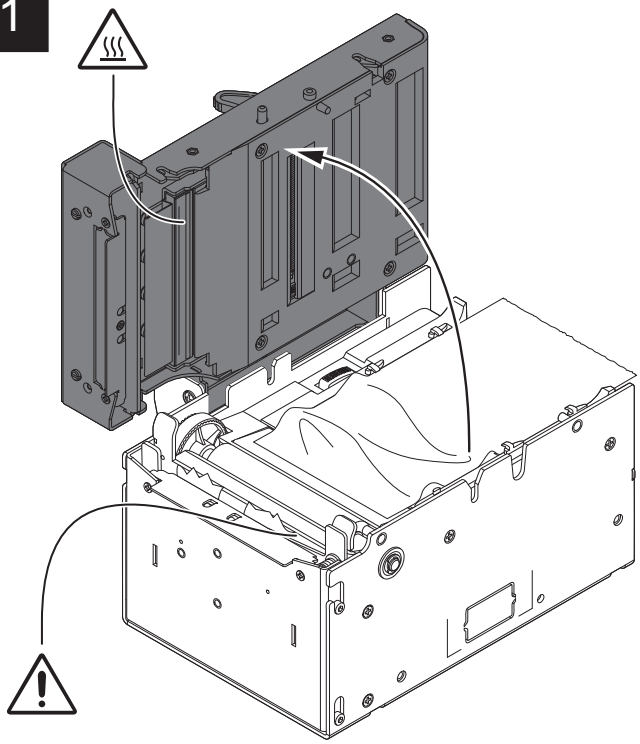


Use the FF FORM FEED key to move the cursor
on the next digit; if the cursor position is
on the latest digit, press the FF FORM FEED key
to exit and save the date/time entered.
Then the device is ready.

6 MAINTENANCE

6.1 Printer paper jam

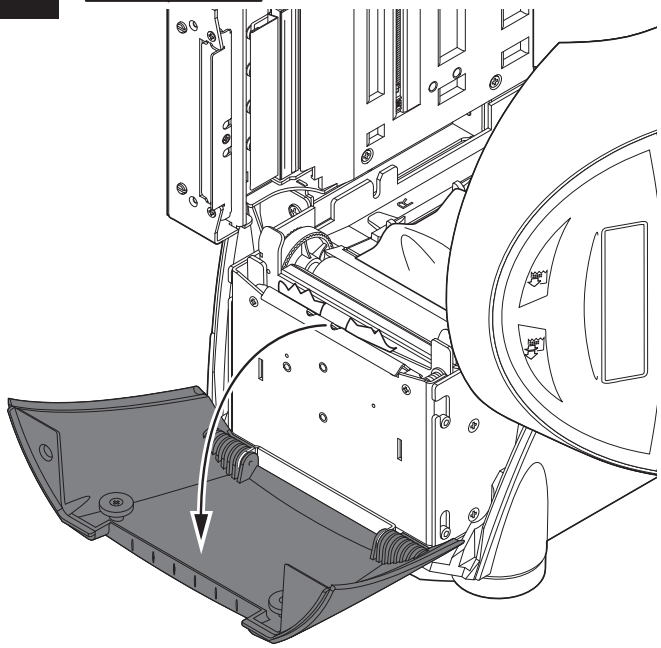
1



Open the upper covers of the device (see previous paragraphs).

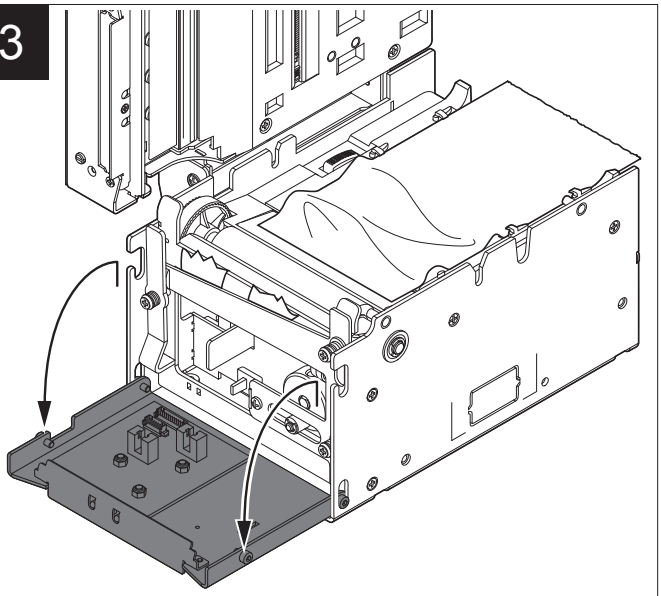
2

TK302, TK303



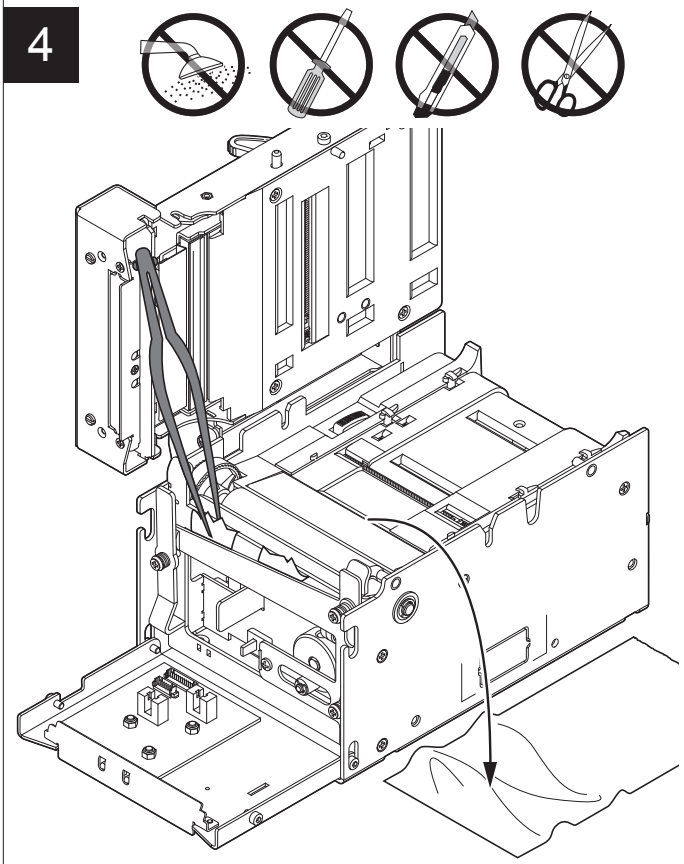
Open the plastic frontal cover.

3



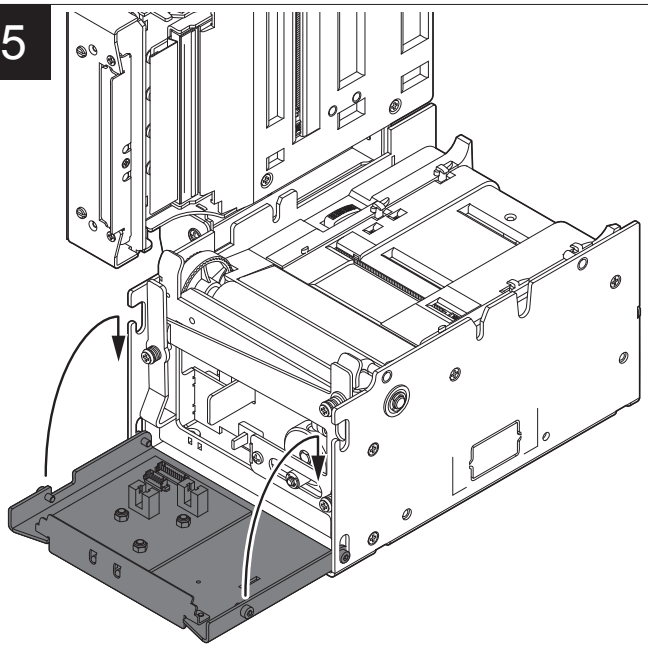
Open the frontal cover of the device.

4



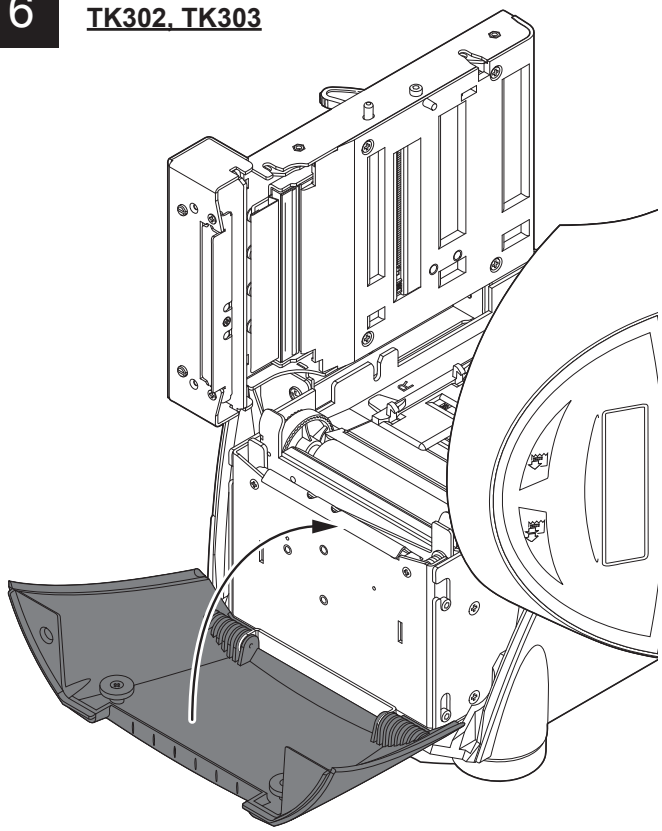
Remove the damaged paper and check the presence for paper scraps inside the device. Carefully remove all paper scraps. If necessary use tweezers.

5



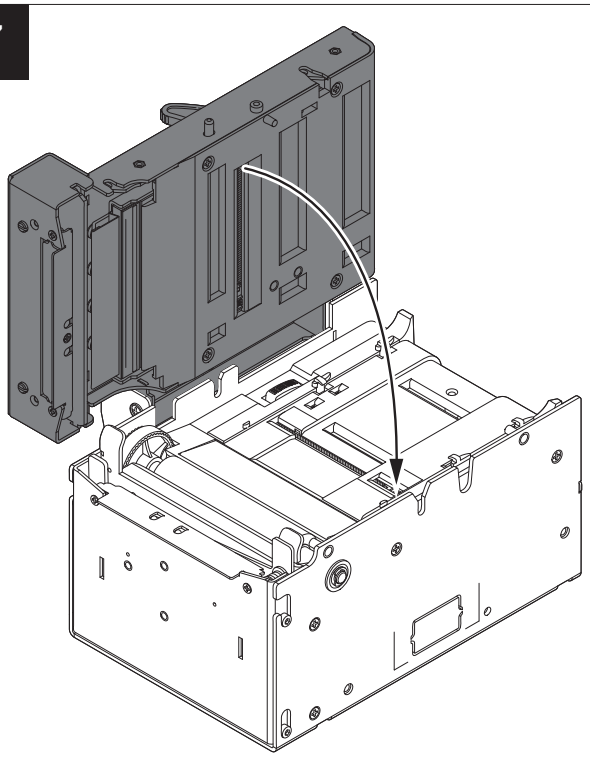
Close the frontal cover
of the device.

6 **TK302, TK303**



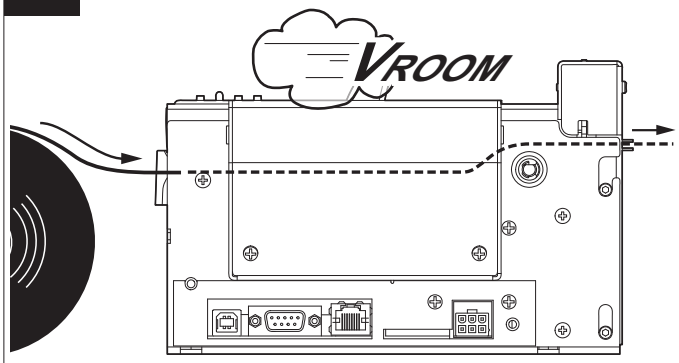
Close the plastic
frontal cover.

7



Close the upper covers of the device
(see previous paragraphs).

8



Insert the paper
(see previous paragraphs).

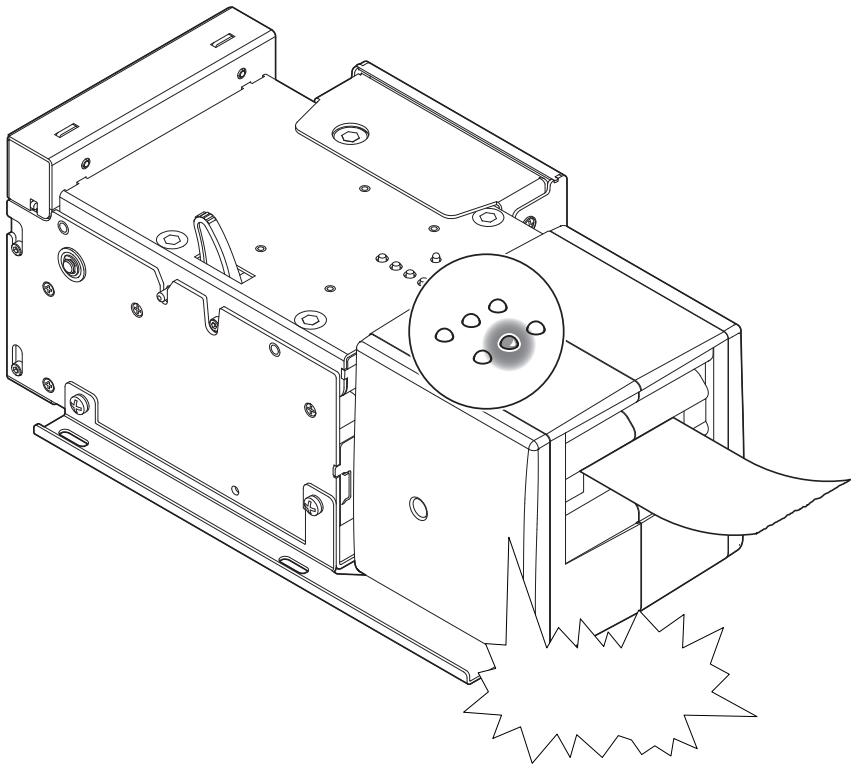
NOTE: For ease of reference, in some figure is represented only the internal printer without the external plastic chassis or triple feeder.

6.2 Triple feeder paper jam

Models with triple feeder

In case of paper jam inside the triple feeder, the green led that corresponds to the input paper jammed flashes quickly. In this case, contact the Customer Service.

1



The green led for
the feeder jammed flashes quickly.

2

support@custom.it
Customer Service Department

Send an e-mail to the Customer Service
(see chapter 10).

NOTE:
For ease of reference, in some figure is represented only the internal printer without the external plastic chassis.

6.3 Planning of cleaning operations

The regular cleaning of the device keeps the print quality and extends its life. The following table shows the recommended planning for the cleaning operations.

EVERY PAPER CHANGE	
Printing head	Use isopropyl alcohol
Printing roll	Use isopropyl alcohol
Window for barcode reading (1)	Use a soft cloth
EVERY 5 PAPER CHANGES	
Cutter	Use compressed air
Paper path	Use compressed air or tweezers
Sensors	Use compressed air
Triple feeder	Use the dedicated cleaning kit (2)
EVERY 6 MONTHS OR AS NEEDED	
Case	Use compressed air or a soft cloth
Display	Use a soft cloth (3)

For specific procedures, see the following pages.

NOTES:
If you use the device in dusty environments, you must reduce the intervals between the cleaning operations.

For ease of reference, in the following pages, for some models is represented only the printer group without the external plastic chassis or triple feeder.

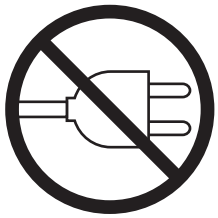
(1) Only for models with barcode reader.
(2) For the cleaning kit for the triple feeder (only for models with triple feeder), contact the Customer Service.
(3) Don’t use any ammonia-based product (only for TK302, TK303)

6.4 Cleaning

For periodic cleaning of the device, see the instructions below

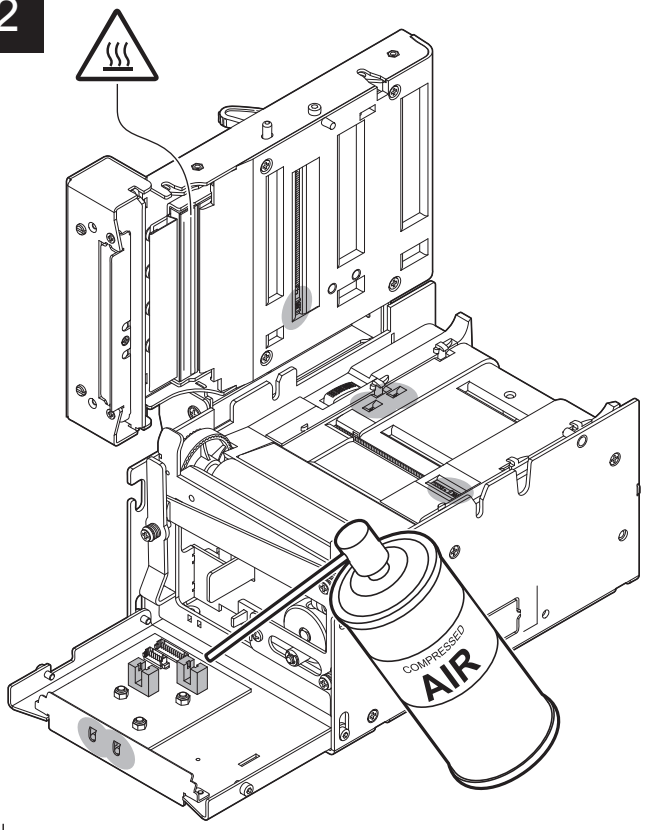
Sensors

1



Disconnect the power supply cable and open all the device covers (see previous paragraphs).

2

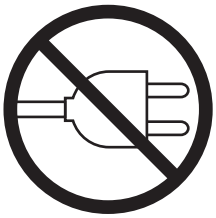


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Clean all the device sensors by using compressed air.

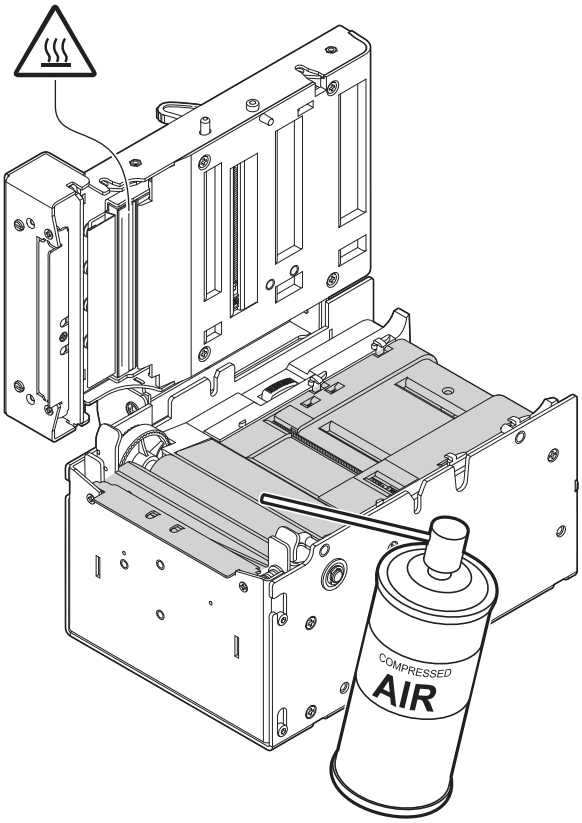
Paper path

1



Disconnect the power supply cable and open the upper device covers (see previous paragraphs).

2

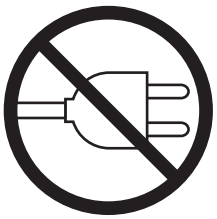


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Clean the area involved in the passage of paper by using compressed air.

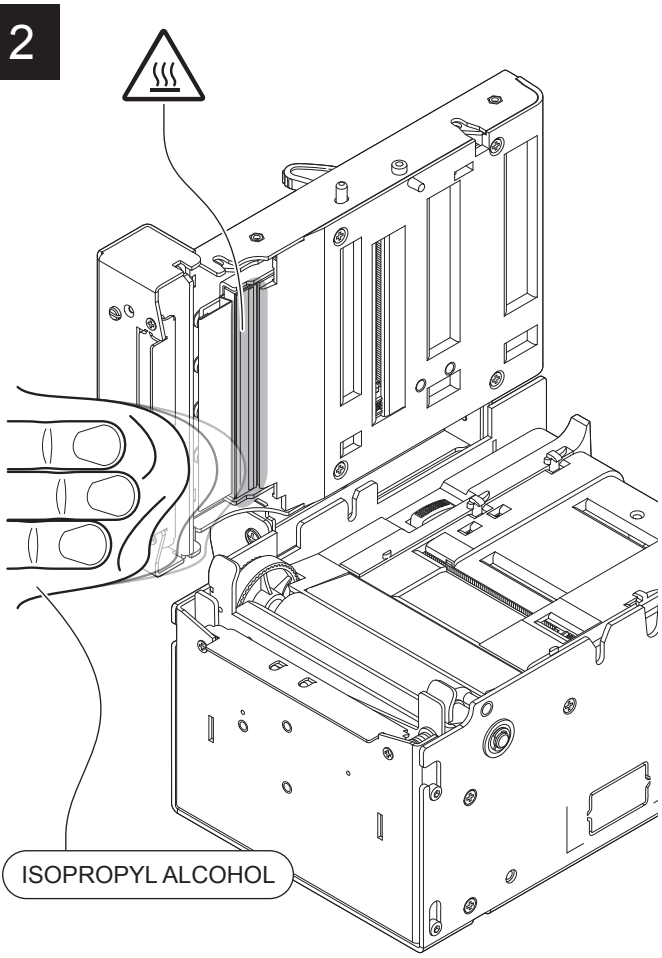
Printing head

1



Disconnect the power supply cable and open the upper device covers (see previous paragraphs).

2

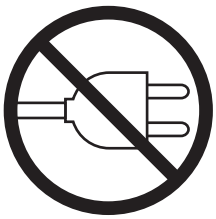


ATTENTION:
Do not use solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Clean the printing head by using
a non-abrasive cloth moistened with isopropyl.

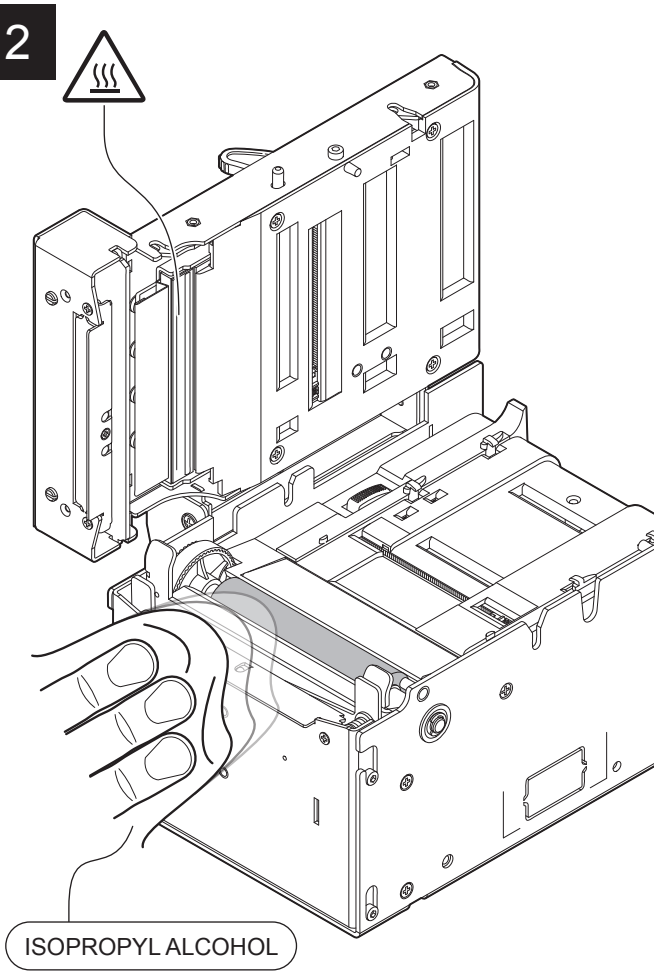
Printing roller

1



Disconnect the power supply cable and open the upper device covers (see previous paragraphs).

2

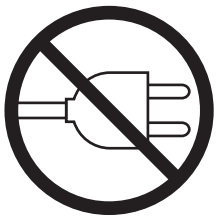


ATTENTION:
Do not use solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Clean the printing roll by using
a non-abrasive cloth moistened with isopropyl.

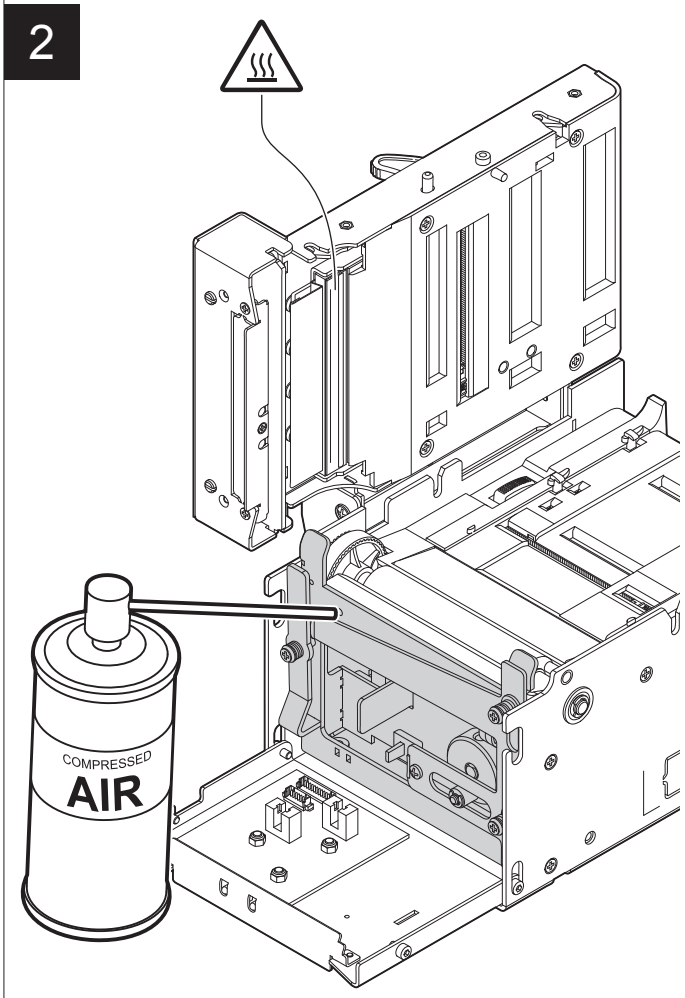
Cutter

1



Disconnect the power supply cable and open all the device covers (see previous paragraphs).

2

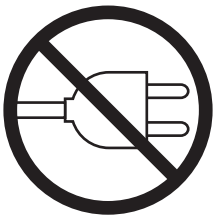


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Clean the cutter
by using compressed air.

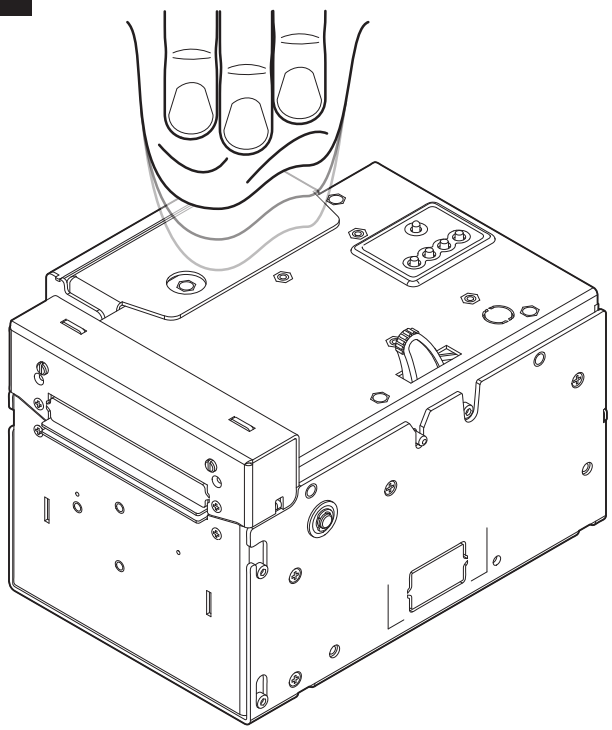
Case

1



Disconnect the power supply cable.

2

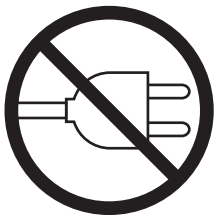


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

To clean the device,
use compressed air or a soft cloth.

Triple feeder

1



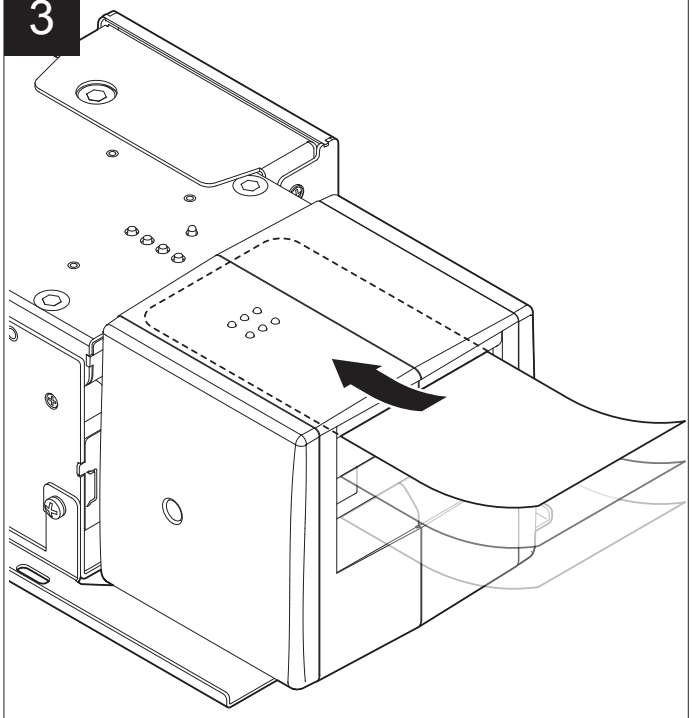
Disconnect the power supply cable and open the upper device covers (see previous paragraphs).

2

support@custom.it
Customer Service Department

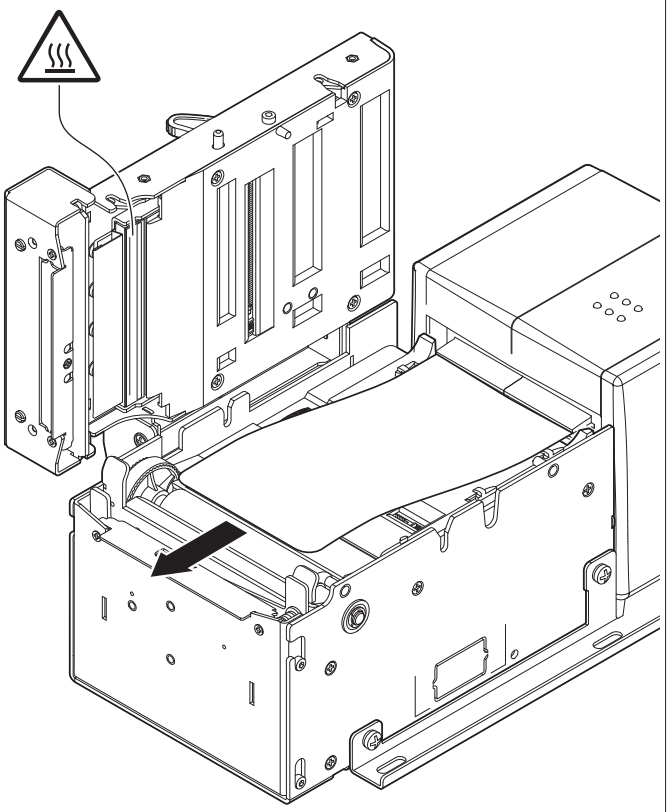
Contact the Customer Service
for the cleaning kit for the triple feeder.

3



Insert the edge with the rounded corners of the ticket of the cleaning kit in each of the three feeders until it comes out from the triple feeder a few of centimeters.

4

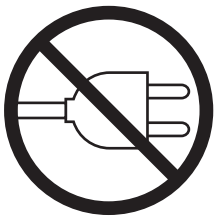


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
To remove paper scraps, use tweezers or compressed air.

Pull out the ticket of the cleaning kit
by sliding it into the triple feeder.

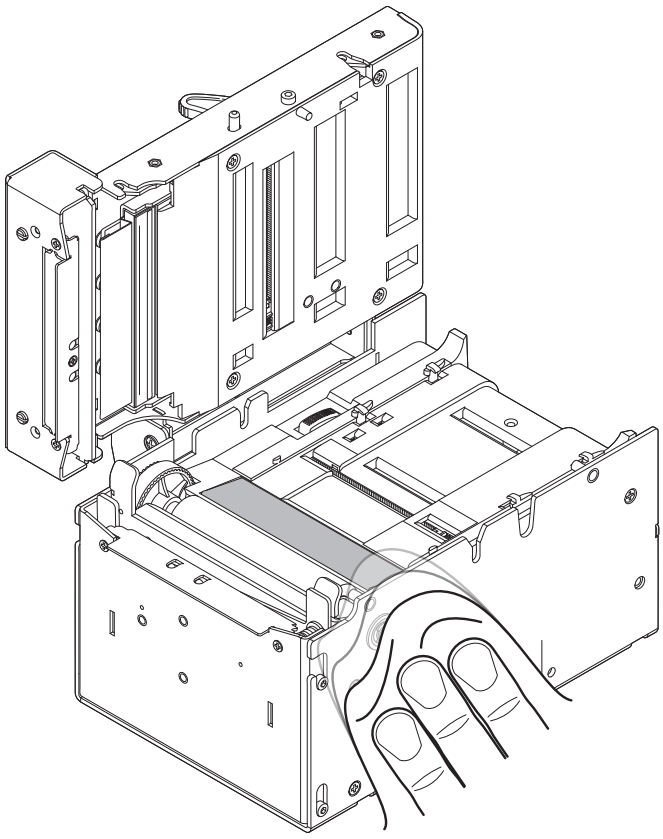
Windows for barcode reading

1



Disconnect the power supply cable and open the upper device covers (see previous paragraphs).

2

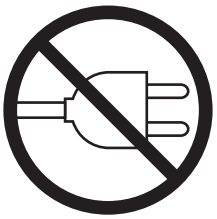


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

Clean the window for barcode reading by using a soft cloth.

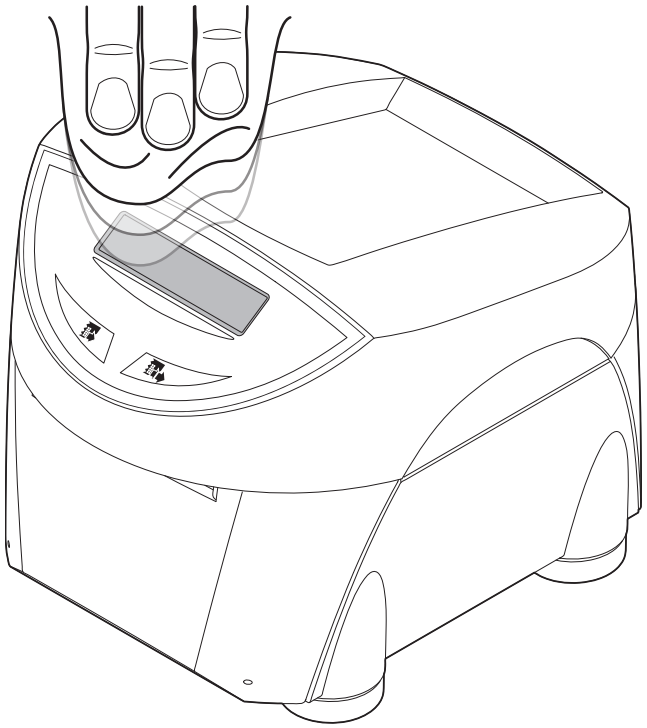
Display

1



Disconnect the power supply cable.

2



ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the machine.
Do not use ammonia-based products .

To clean the display, use compressed air or a soft cloth.

6.5 Upgrade firmware

WARNING: During communication between PC and device for the firmware update it is strictly forbidden to disconnect the communication cable or to remove the power supply of the devices not to endanger the proper functioning of the machine.

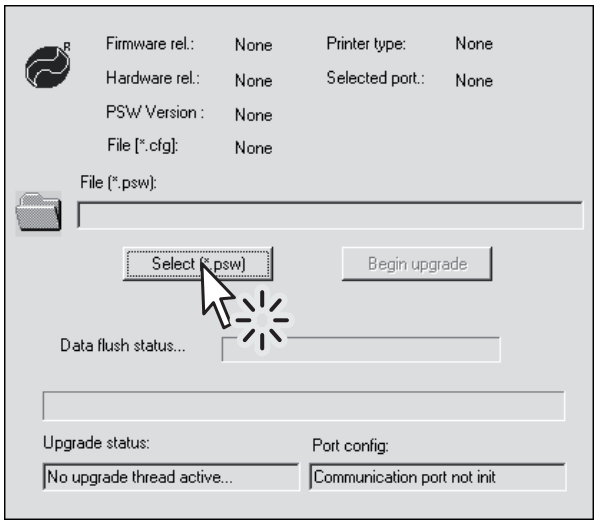
NOTES:
The latest firmware of the device is available in the download area of the web site www.custom.biz

Install on the PC used for device upgrading the UPG-CEPRN software available in the download area of the web site www.custom.biz.

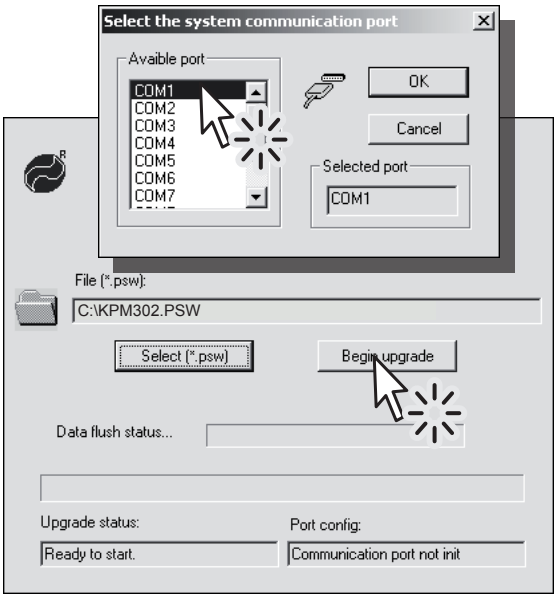
Update via serial interface

Proceed as follows:

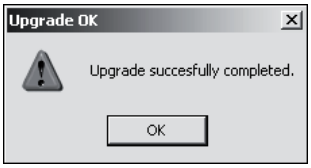
1. Write down the product code (14 digits) printed on the product label (see par.2.5).
2. Go to the web site www.custom.biz and download the appropriate firmware release from the DOWNLOAD area.
3. Print the SETUP report (see chapter 5).
4. Switch OFF the device.
5. Connect the device to the PC using a serial cable (see paragraph 3.5).
6. Switch ON the device.
7. Launch the software UPGCEPRN.
8. Select the update file .PSW location:



9. Select the serial communication port (e.g. COM1):



10. Detecting and setting of the parameters necessary for serial communication are performed automatically and then updating begins.
11. After a few minutes a message on the screen warns that the update is completed.



12. Print a new SETUP report to verify the new firmware release (see chapter 5).

Update via USB interface

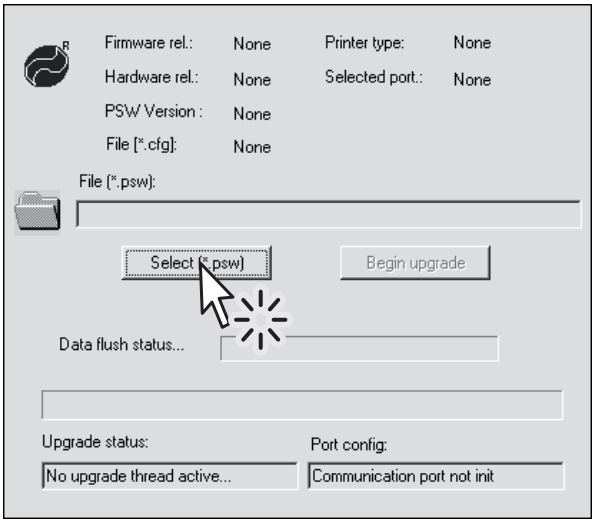
ATTENTION:
Only during the firmware update, the connection between PC and device must be direct, without the use of HUB device.

Only during the firmware update, do not connect or disconnect other USB devices.

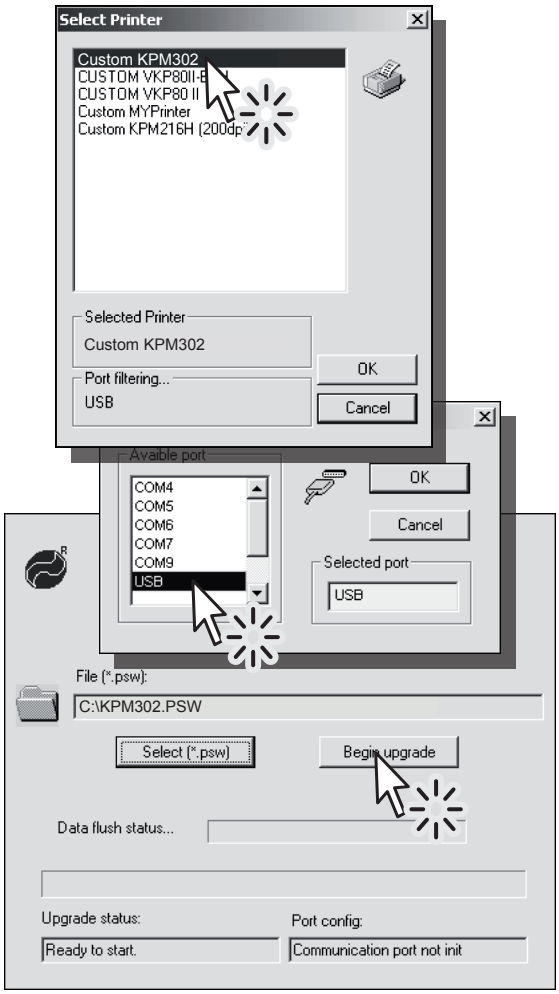
NOTE: For communication via USB you must install on PC the device driver available in the download area of the web site www.custom.biz.

Proceed as follows:

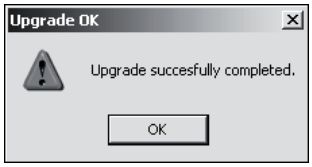
1. Write down the product code (14 digits) printed on the product label (see par.2.5).
2. Go to the web site www.custom.biz and download the appropriate firmware release from the DOWNLOAD area.
3. Print the SETUP report (see chapter 5).
4. Switch OFF the device.
5. Connect the device to the PC using a USB cable (see paragraph 3.5).
6. Switch ON the device.
7. Launch the software UPGCEPRN.
8. Select the update file .PSW location:



9. Select item USB and then select the USB device among those proposed (e.g. KPM302):



10. After a few minutes a message on the screen warns that the update is completed.



11. Print a new SETUP report to verify the new firmware release (see chapter 5).

7 SPECIFICATION

7.1 Hardware specifications

GENERAL	
Sensors	Head temperature, paper presence, paper presence on output, mobile detectors of black mark or translucent gap/hole (setting by software), frontal and upper cover open, external near paper end, tilting slide position (only for models with selector)
MTBF (1)	84 080 hours
Noise	
KPM302	74 dBA
KPM302 (models with triple feeder)	75 dBA
KPM303	73 dBA
TK302, TK303	76.7 dBA
Emulations	CUSTOM/POS, SVELTA
INTERFACES	
USB port	12 Mbit/sec
RS232 serial port	from 1200 to 115200 bps
ETHERNET port	10 Mbit/sec, 100 Mbit/sec
MEMORIES	
Receive buffer	64 Kbytes
Flash memory	16 Mbytes)
Graphic memory	Logos dynamic management (max 2MB graphic memory)
Memory card SD/MMC	Capacity = max 2 Gbytes

PRINTER	
Resolution	
KPM302, TK302	203 dpi (8 dot/mm)
KPM303, TK303	304 dpi (12 dot/mm)
Printing method	Thermal, fixed head
Head life [2]	50 Km / 100M pulses
Printing mode	Normal, 90°, 180°, 270°
Printing format	Height/Width from 1 to 8, bold, reverse, underlined, italic
Character font	
CUSTOM/POS emulation	PC437, PC850, PC860, PC863, PC865, PC858 (euro), 2 TrueType fonts [3]
CUSTOM/POS emulation (models with simplified chinese font)	PC437, PC850, PC860, PC863, PC865, PC858 (euro), GB2312, 2 TrueType fonts [3]
CUSTOM/POS emulation (models with traditional chinese font)	PC437, PC850, PC860, PC863, PC865, PC858 (euro), BIG5, 2 TrueType fonts [3]
SVELTA emulation	20 embedded fonts and 2 TrueType fonts [3]
Printable barcode	UPCA, UPCE, EAN13, EAN8, CODE39, ITF, CODABAR, CODE93, CODE128, CODE32, PDF417, DATAMATRIX, AZTEC, QRCODE
Printing speed [2] [4]	
KPM302, TK302	High quality = 110 mm/sec Normal = 170 mm/sec High spped = 200 mm/sec
KPM303, TK303	High quality = 100 mm/sec Normal = 125 mm/sec High speed = 150 mm/sec

PAPER	
Type of paper	Thermal rolls, heat-sensitive side on outside of roll Thermal fanfold module with alignment notch
Paper width	
standard models	from 20 mm to 82.5 mm (2 mm step)
models with selector	from 40 mm to 82.5 mm (2 mm step)
models with triple feeder	54 mm, 82.5 mm
Paper weight	
models without triple feeder	from 80 g/m^2 to 255 g/m^2
models without triple feeder and in BURSTER configuration	from 100 g/m^2 to 250 g/m^2
models with triple feeder	from 100 g/m^2 to 255 g/m^2
models with triple feeder and in BURSTER configuration	from 100 g/m^2 to 250 g/m^2
Paper thickness (models with triple feeder)	max 280 µm
Minimum ticket length (models with selector)	50mm
External roll diameter [5]	max. 300 mm
Internal roll core diameter	25 mm (+ 1mm)
Core thickness	2 mm (+ 1mm)
Paper end	Not attached to roll core
Core type	Cardboard or plastic
CUTTER	
Paper cut	Total
Estimated life [2]	1 500 000 cutter number

DEVICES ELECTRICAL SPECIFICATIONS	
Power supply	24 Vdc ±10%
Medium consumption (4)	
KPM302, TK302	0.8 A
KPM302, TK302 (models with triple feeder)	1 A
KPM303, TK303	0.6 A
Stand-by consumption	0.14 A
POWER SUPPLY ELECTRICAL SPECIFICATIONS cod.963GE020000004	
Power supply voltage	Auto Range, 90-132 VAC & 190-264 VAC
Frequency	from 47 Hz to 63 Hz
Current (output)	4.17 A
Power	100 W
ENVIRONMENTAL CONDITIONS	
Operating temperature	from 0°C to 50°C
Relative humidity	
KPM302, KPM303	from 10% Rh to 80% Rh
TK302, TK303	from 10% Rh to 85% Rh
Storage temperature	from -20 °C to +70 °C
Storage relative humidity	from 10% Rh to 90% Rh

NOTES:
(1) : Control board.
(2) : Respecting the regular schedule of cleaning for the device components.
(3) : “Veramono.ttf” and “Vera.ttf” are installed on device flash disk. It is possible to install additional TrueType fonts (see par.12.8).
(4) : Referred to a standard CUSTOM receipt (L=10cm, Density = 12,5% dots on).
(5) : For external rolls diameter higher to Ø100mm it’s recommended to use a paper pretensioning device.

7.2 Character specifications

KPM302, TK302

Character set		3	
Character density	11 cpi	15 cpi	20 cpi
Number of columns	35	45	64
Chars / sec	2900	3800	5300
Lines / sec	83	83	83
Characters (L x H mm)-Normal	2.25 x 3	1.75 x 3	1.25 x 3

KPM303, TK303

Character set		3	
Character density	16 cpi	23 cpi	30 cpi
Number of columns	53	68	96
Chars / sec	5300	6800	9600
Lines / sec	100	100	100
Characters (L x H mm)-Normal	1.5 x 2	1.2 x 2	0.8 x 2

7.3 Specifications for RFID reader/writer

TRANSPONDER SPECIFICATIONS [1]	
Supported transponders	HF high frequency RFID (13,5Mhz) [2] : ISO 14443A (Mifare 1K, 4K), Ultralight ISO 15693 (i-Code tags) UHF ultra high frequency RFID (900 Mhz) [3] : ETSI fully compliant to the European Regulation ETSI EN 300 220 (869.525 MHZ), FCC compliant to the US telecommunication regulation US FCC part 15 (902-928 MHZ), ISO 18000-6B, Philips UCODE EPC 1.19 EPC Class1 Gen2

NOTES:
(1) : Only for models with RFID reader/writer (mifare/icode).
(2) : With optional ASK support also the ISO 14443B, Felica , Calypso and also other minor RFID standards.
(3) : Other UHF protocols are available with firmware upgrade.

7.4 Specifications for barcode reader

BARCODE READER mod.CX002 [1]	
Scan rate	200 scans/sec
Sensor	Liner CCD sensor
Light source	Red Lens, 630 nm
Ambient light (Fluorescent lamp)	3000 LUX max
Resolution	5 mil. (0.127 mm)
Readable barcode	ALL UPC/EAN/JAN, Code 39, Code 39 Full ASCII, Code 128, Code 93, Interleave 25, Industrial 25, Matrix 25, China Postage, CODABAR/NW7, Code 11, MSI/PLESSEY, Code 32

NOTE:
(1) : Only for models with barcode reader.

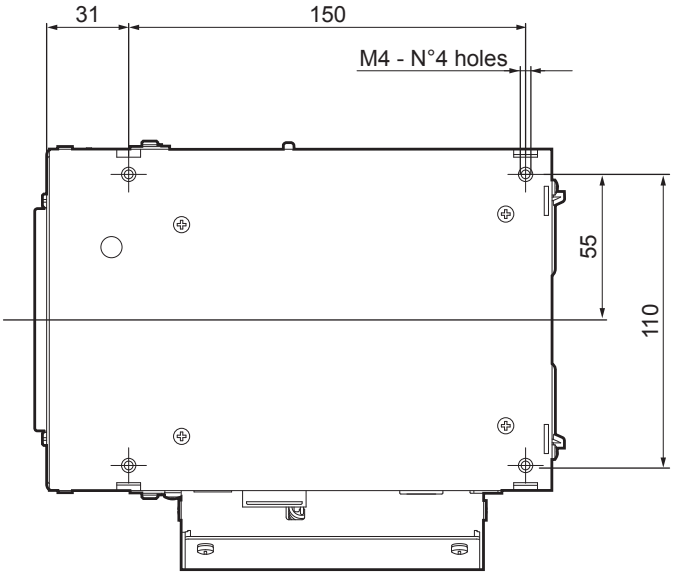
7.5 Device dimensions

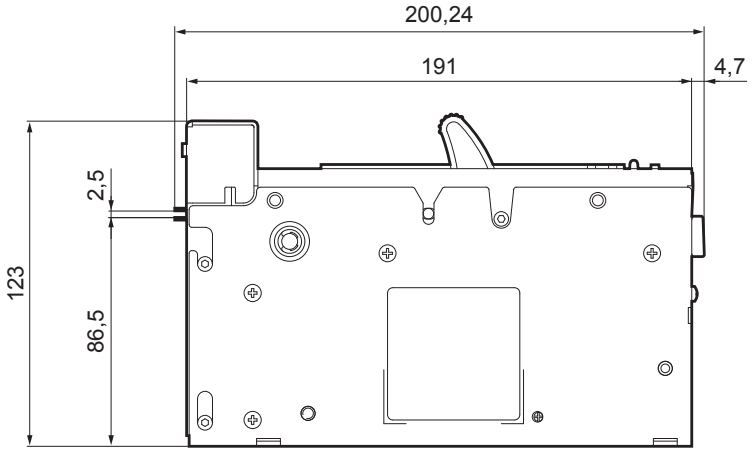
KPM302, KPM303

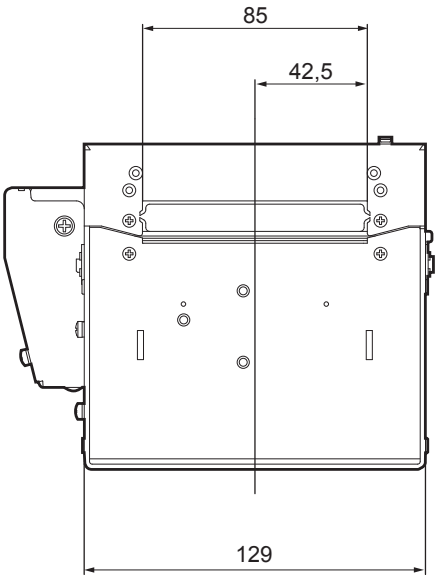
Length	
standard models	191 mm
models with ejector	212.7 mm
models with selector	272.2 mm
models with triple feeder	307.5 mm
Height	123 mm
Width	
models without triple feeder	160 mm
models with triple feeder	168 mm
Weight	
models without triple feeder	3500 g
models with triple feeder	5200 g

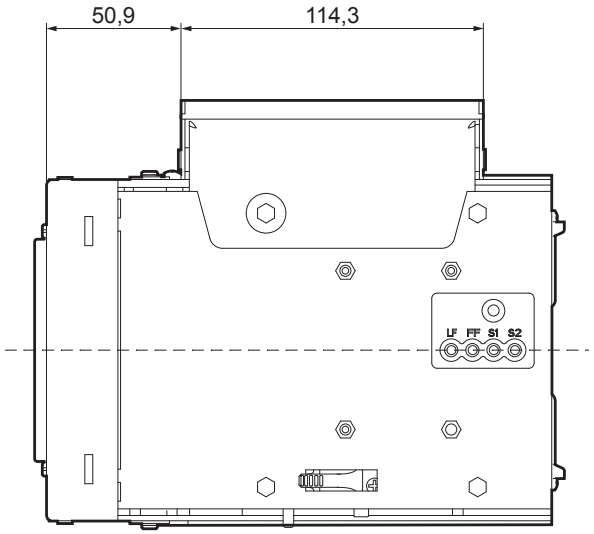
NOTE:
All the dimensions shown in the following figure are in millimetres and referred to devices with covers closed.

KPM302, KPM303 (standard models)

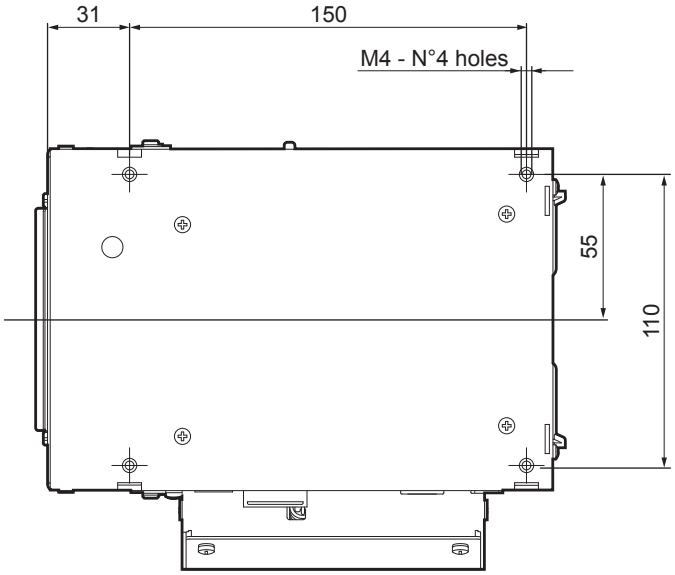


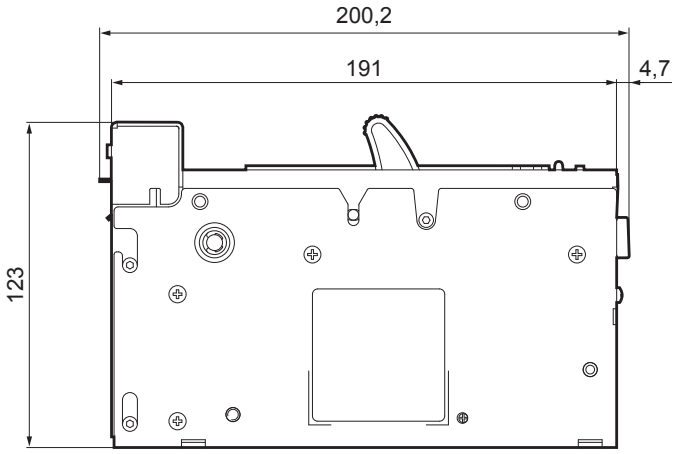


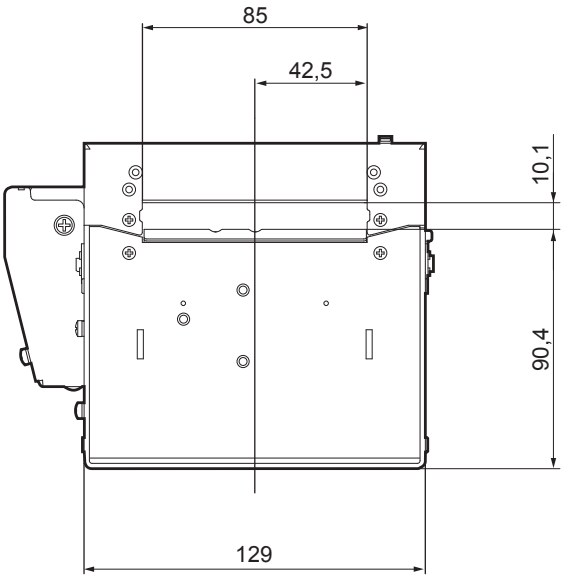


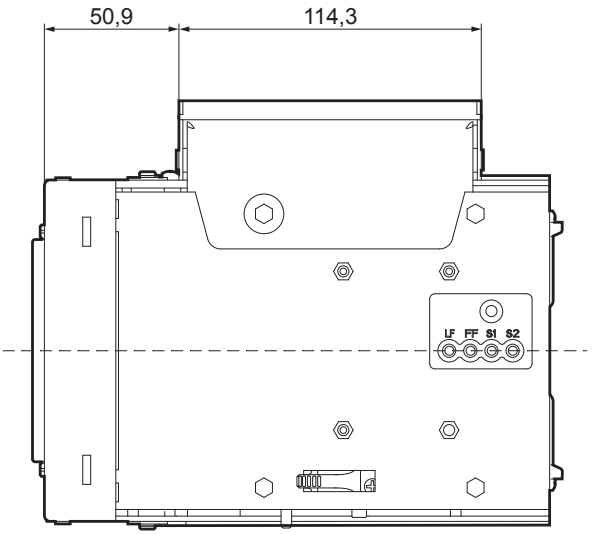


KPM302, KPM303 (CUT&DROP configuration)

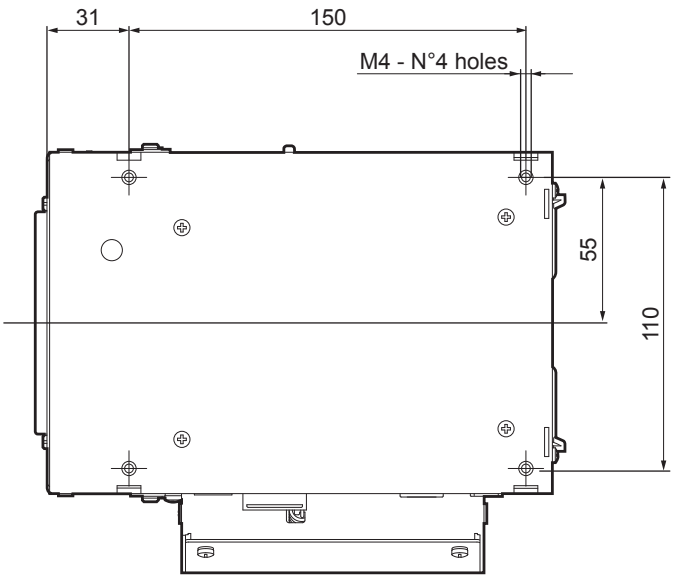


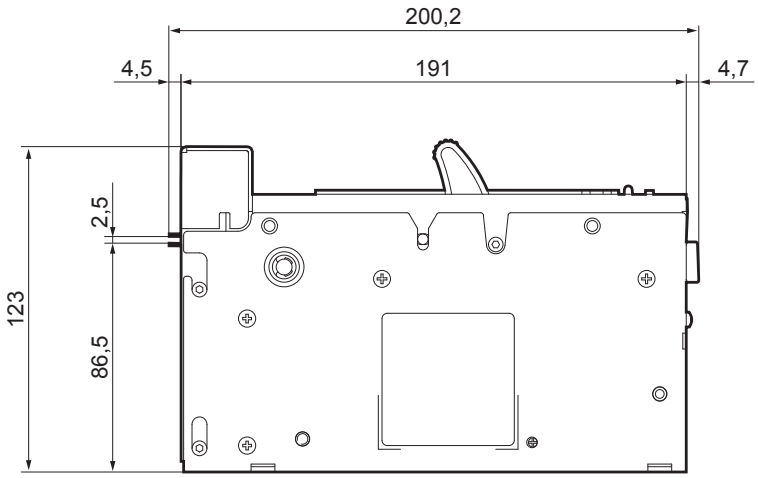


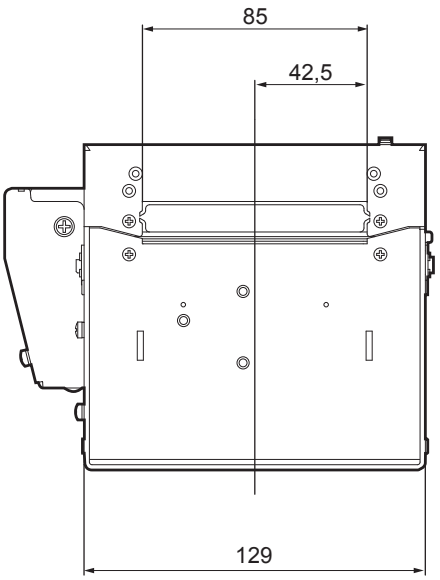


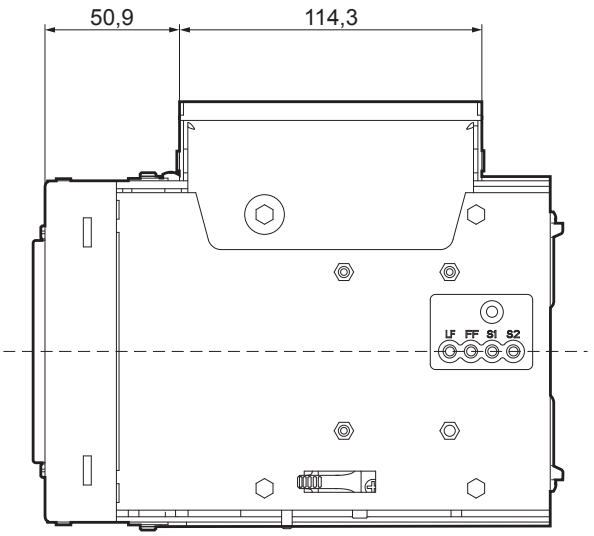


KPM302, KPM303 (BURSTER configuration)

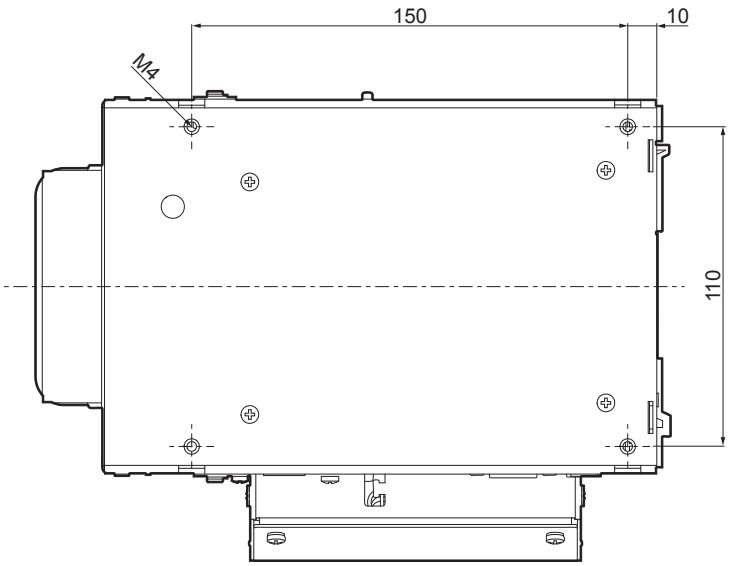


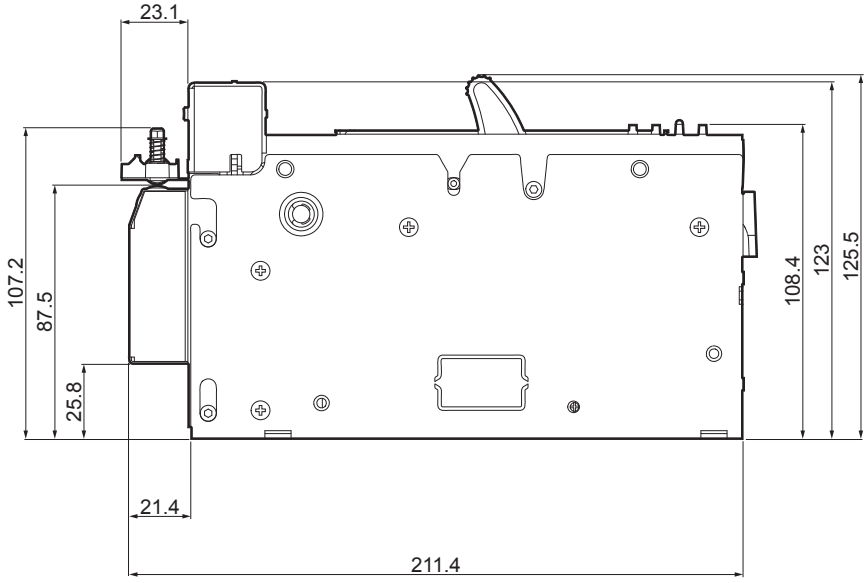


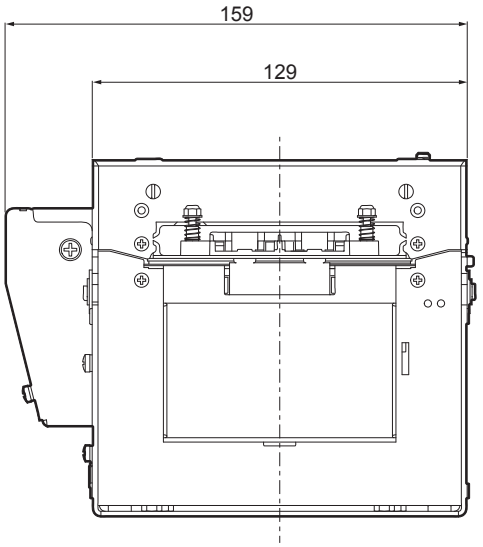




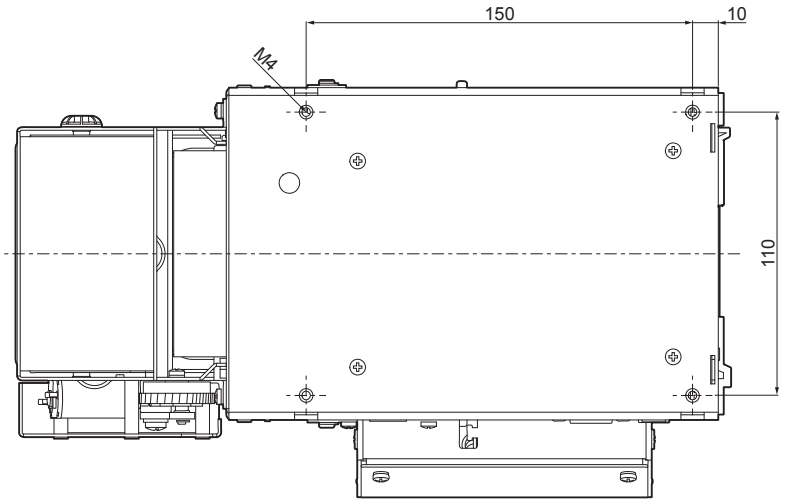
KPM302, KPM303 (models with ejector)

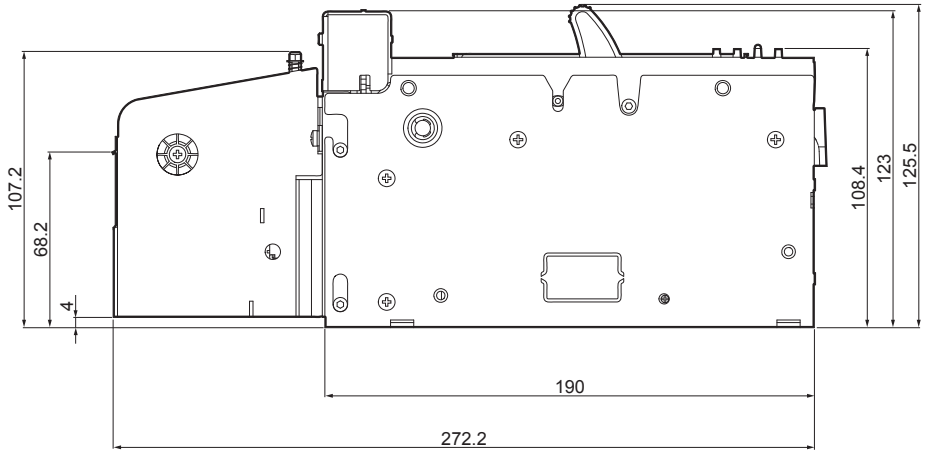


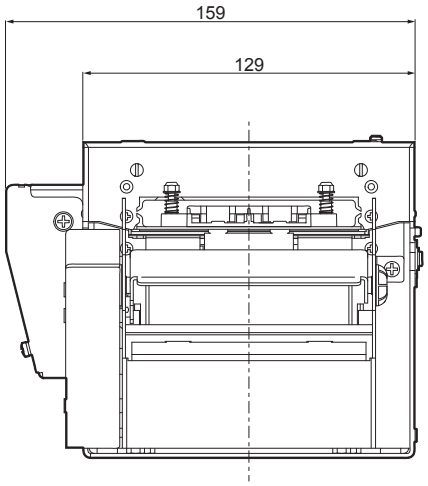




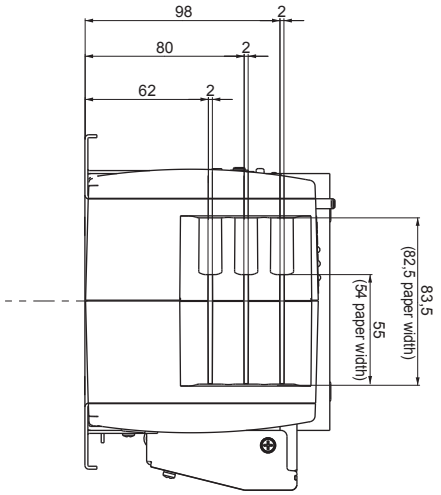
KPM302, KPM303 (models with selector)

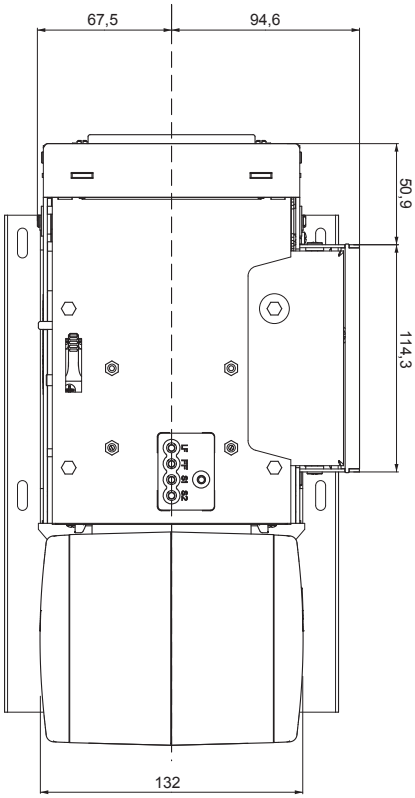


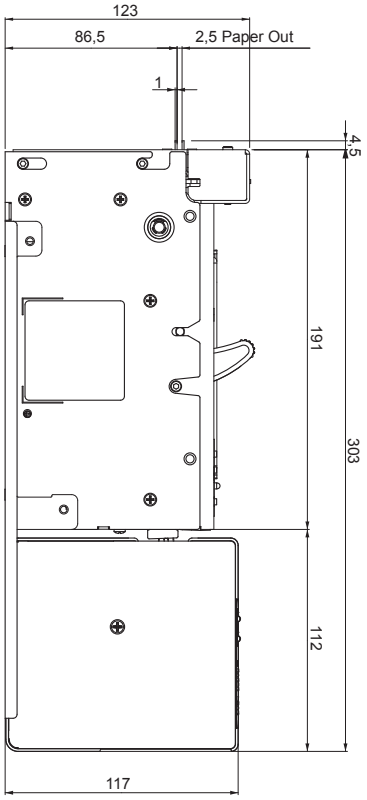


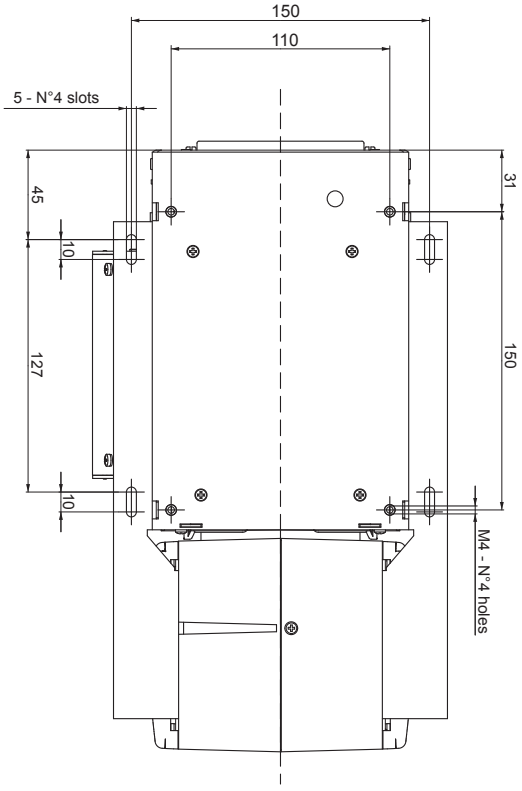


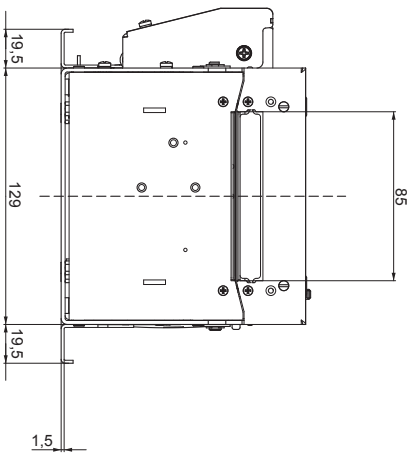
KPM302 (standard models with triple feeder)



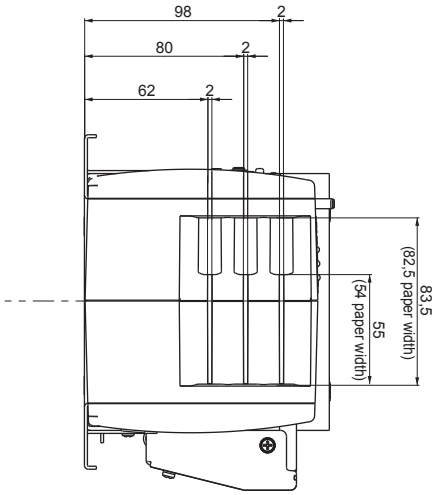


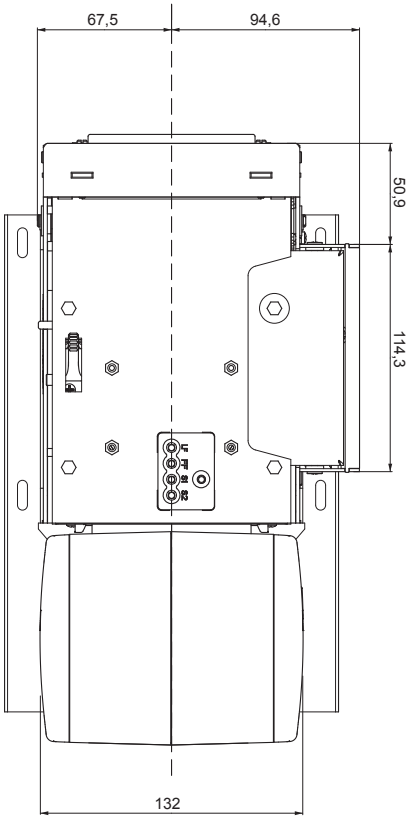


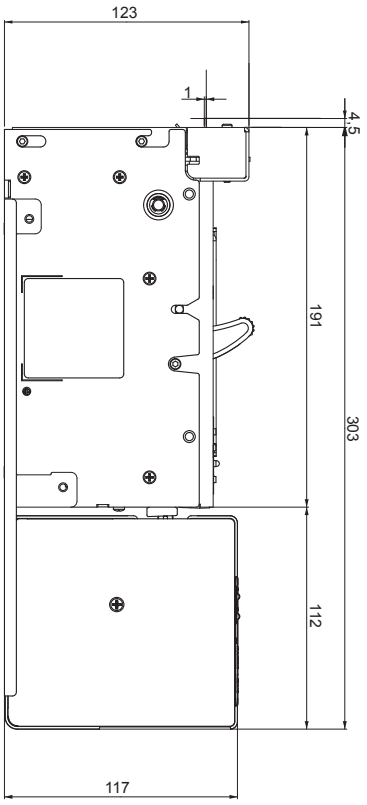


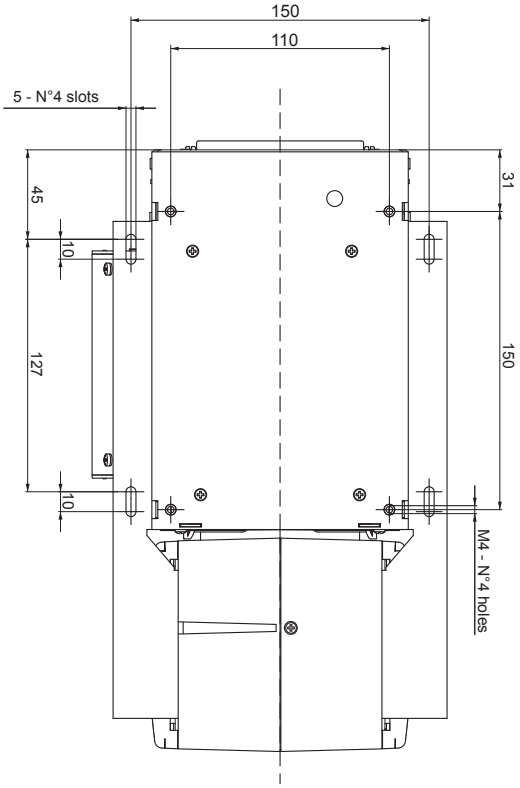


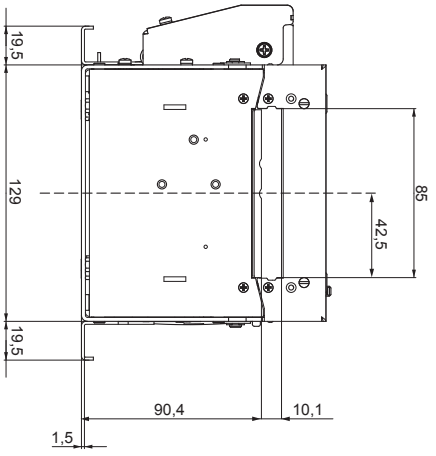
KPM302 (models with triple feeder and in CUT&DROP configuration)



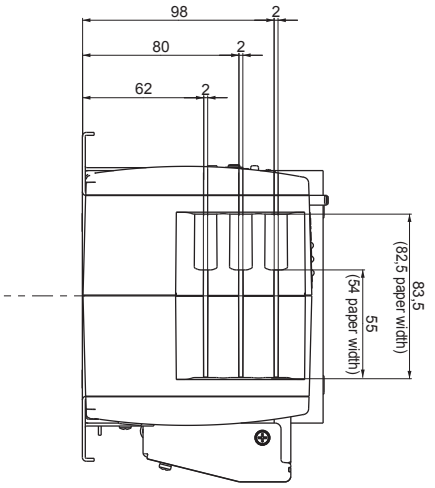


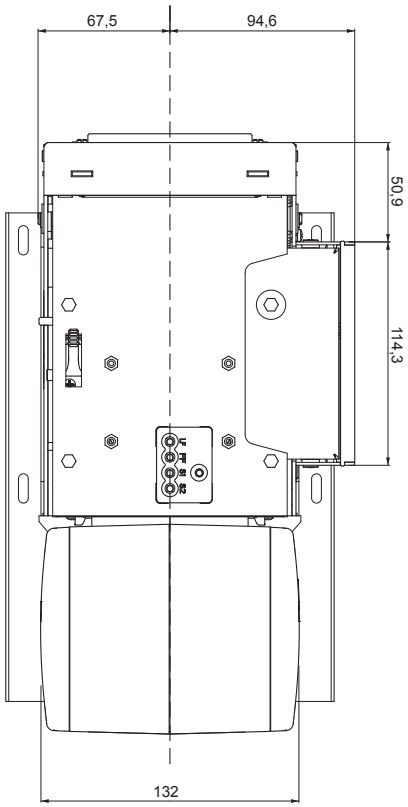


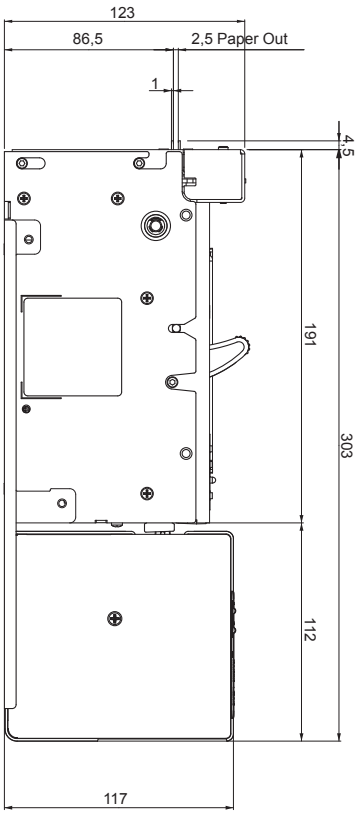


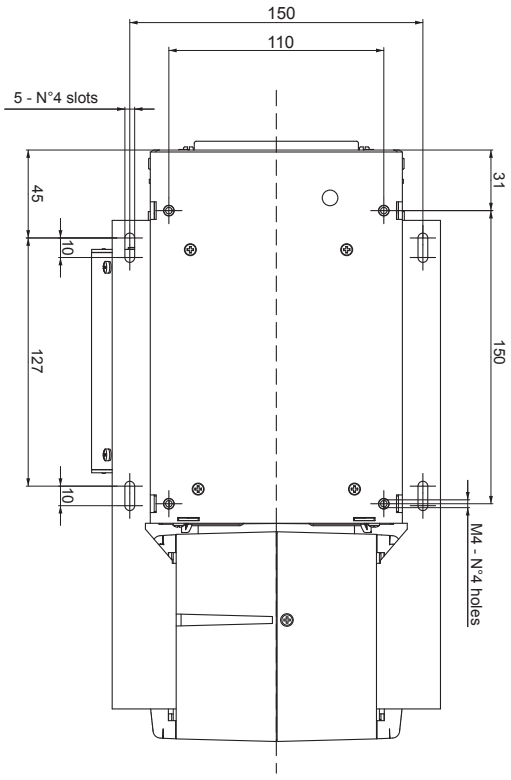


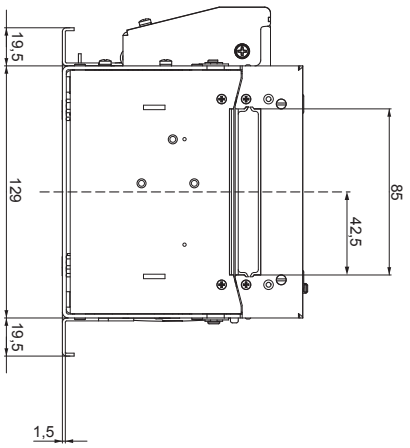
KPM302 (models with triple feeder and in BURSTER configuration)









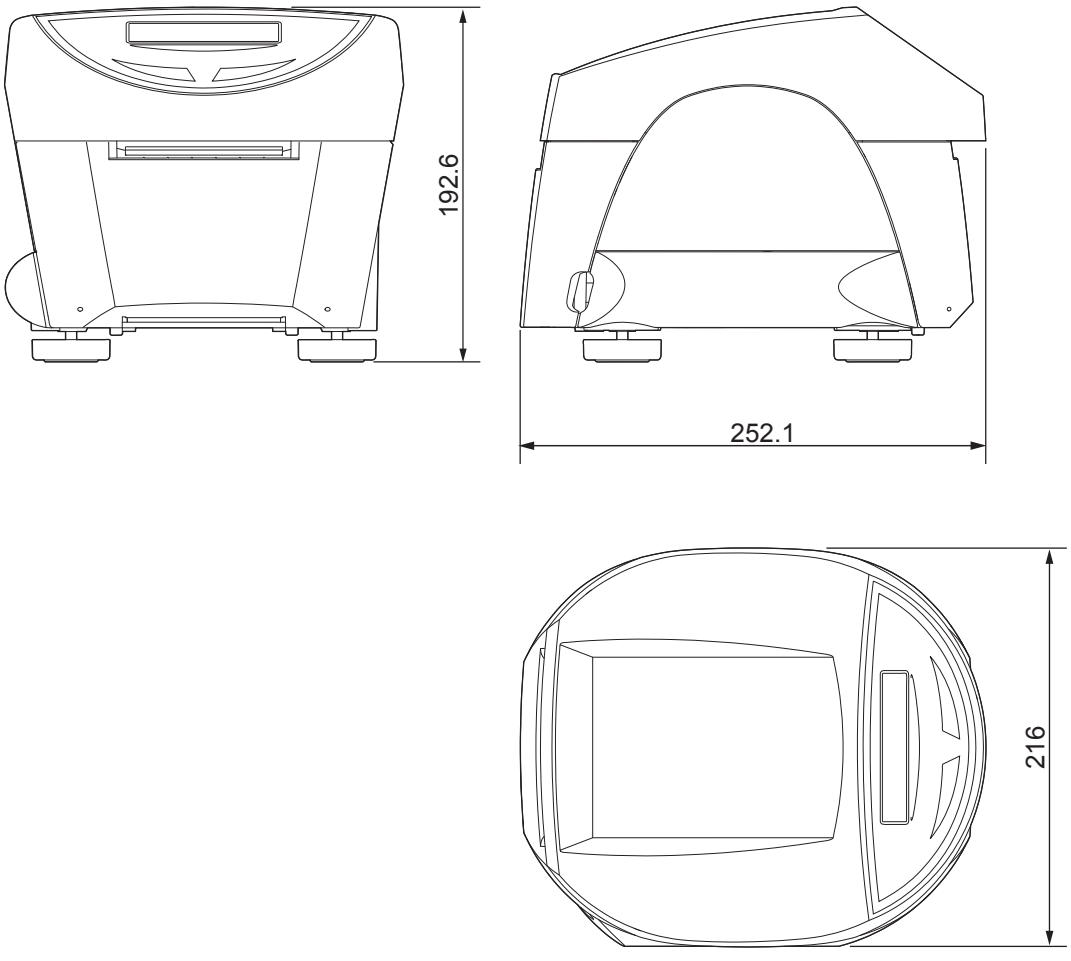


TK302, TK303

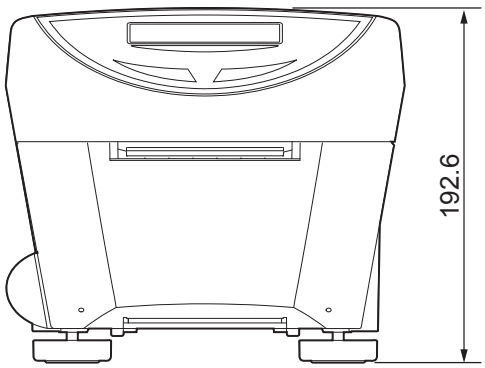
Length	
standard models	252.1 mm
models with triple feeder	331 mm
Height	192.6 mm
Width	216 mm
Weight	
models without triple feeder	4000 g
models with triple feeder	4950 g

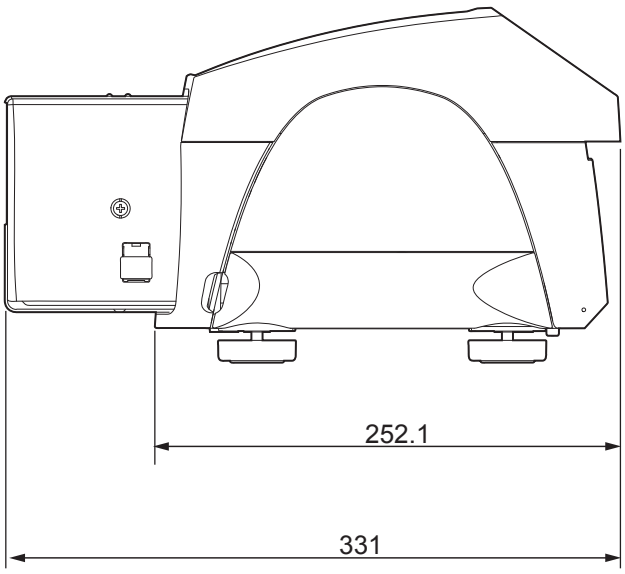
NOTE: All the dimensions shown in the following figure are in millimetres and referred to devices with covers closed and without paper roll.

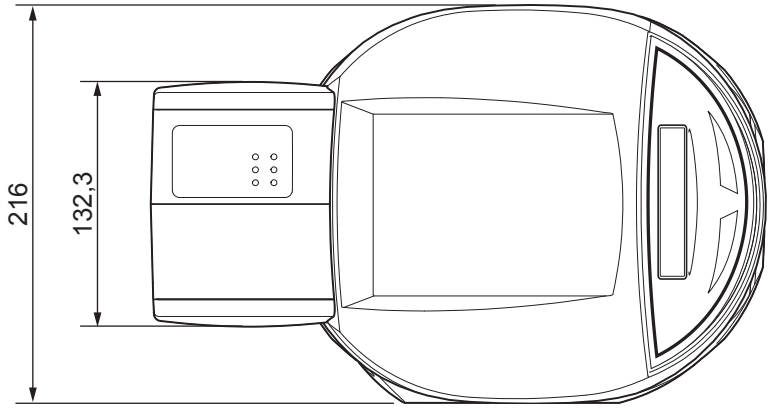
TK302, TK303 (models without triple feeder)



TK302 (models with triple feeder)





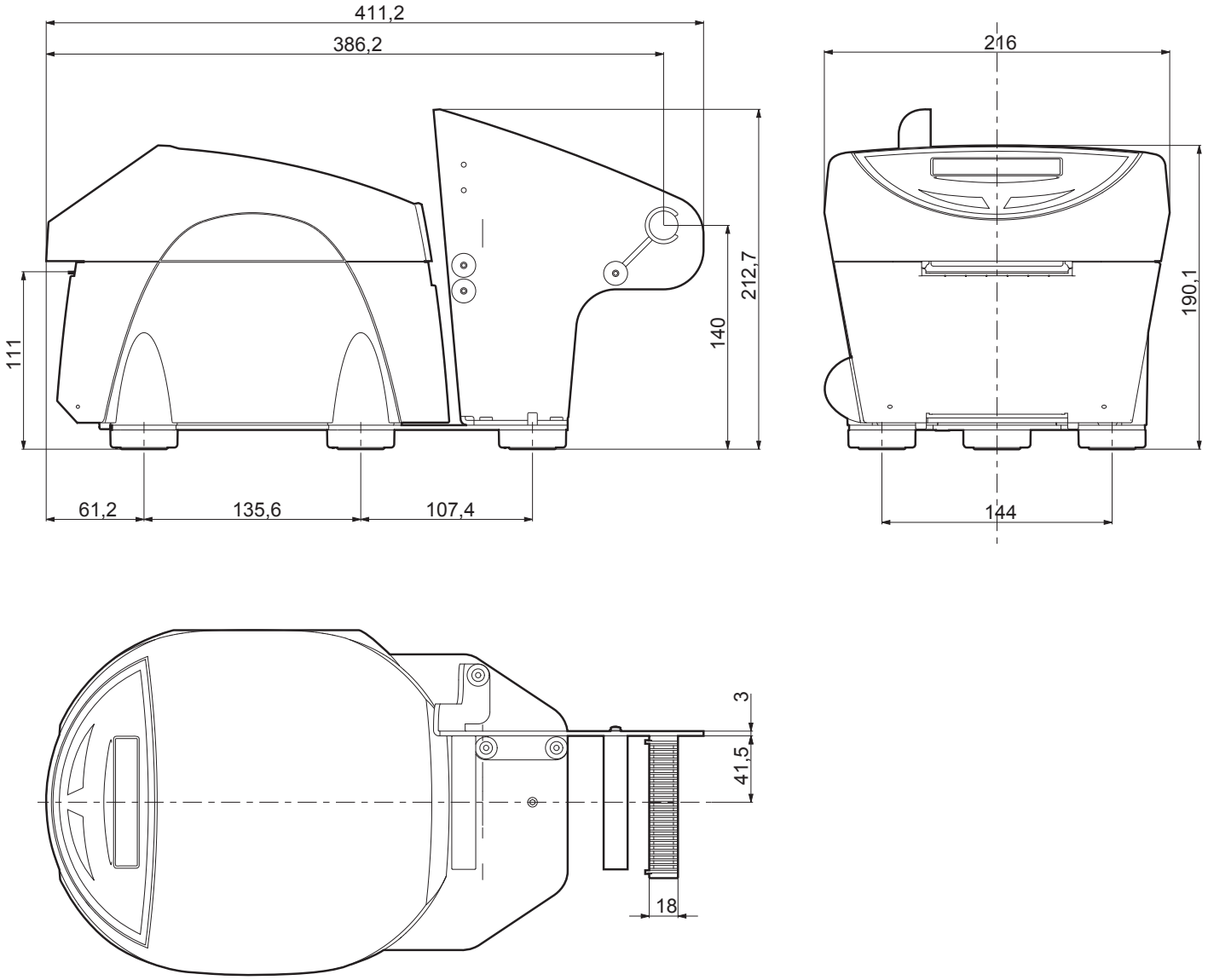


7.6 Device dimensions with paper roll holder

TK302, TK303

Length	411.2 mm
Height	212.7 mm
Width	216 mm

NOTE: All the dimensions shown in the following figure are in millimetres and referred to devices with covers closed and without paper roll.

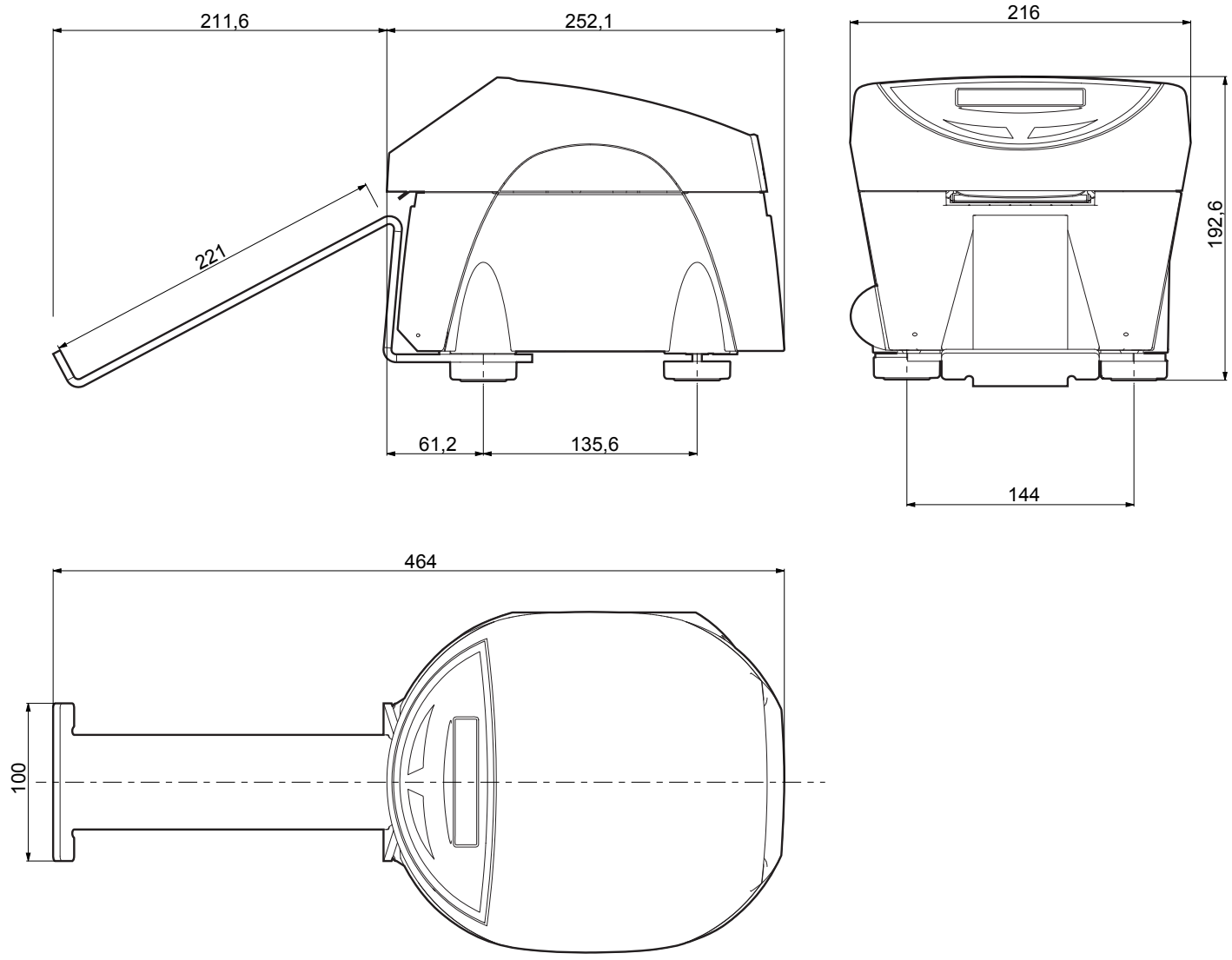


7.7 Device dimensions with ticket tray

TK302, TK303

Length	464 mm
Height	192.6 mm
Width	216 mm

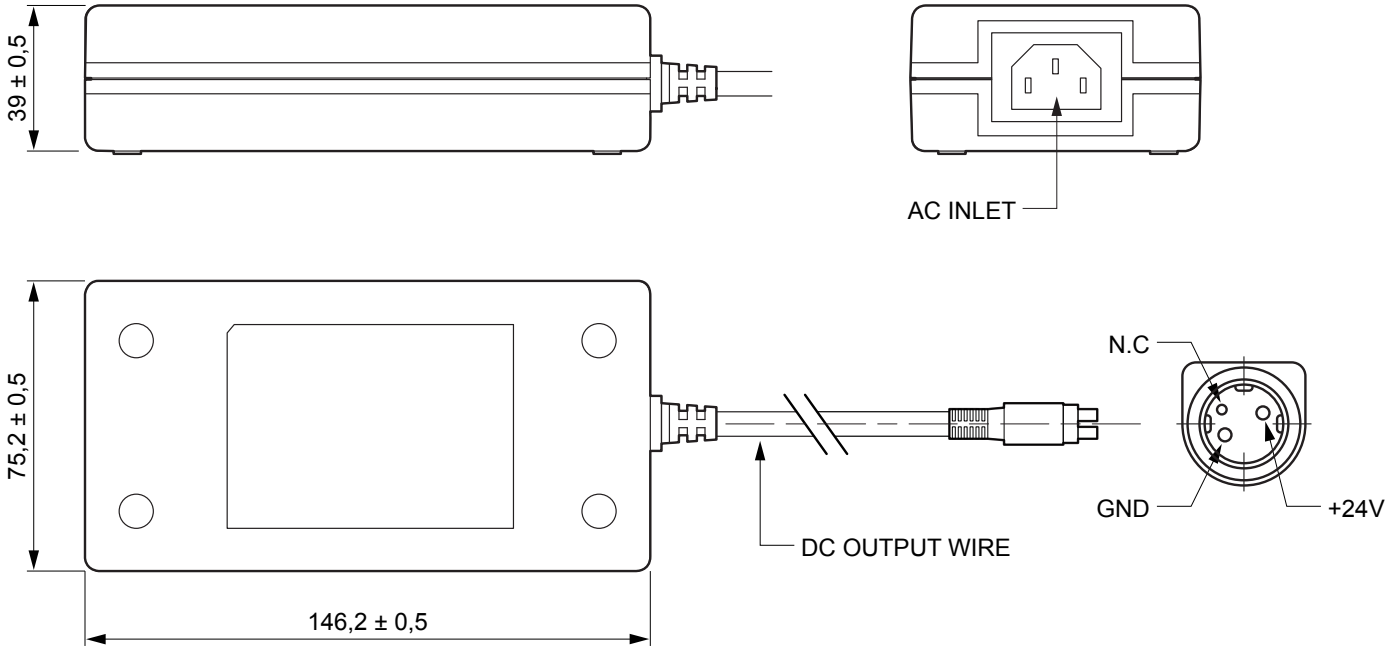
NOTE: All the dimensions shown in the following figure are in millimetres and referred to devices with covers closed and without paper roll.



7.8 Power supply dimensions cod. 963GE020000004

Length	146,2 ± 0,5 mm
Height	39 ± 0,5 mm
Width	75,2 ± 0,5 mm

NOTE:
All the dimensions shown in following figures are in millimetres.

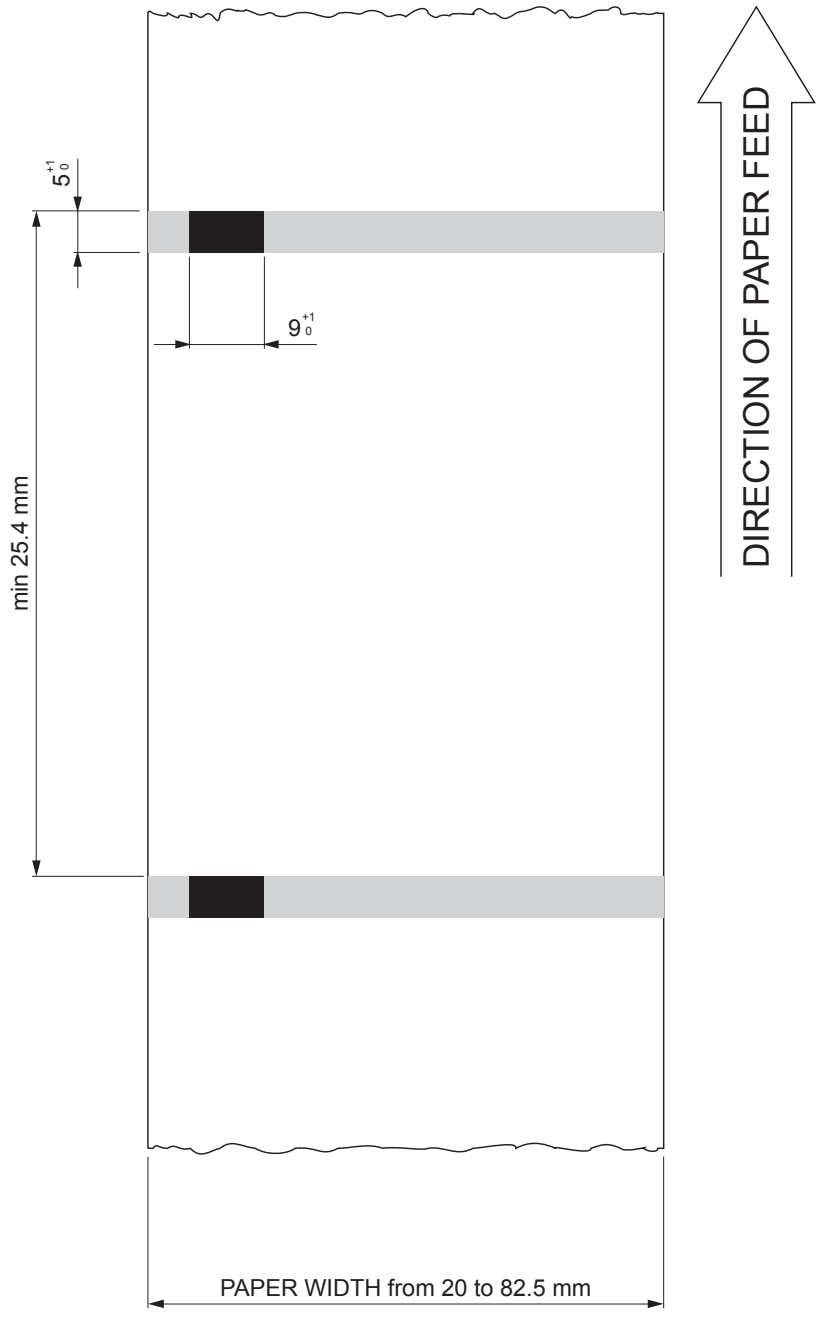


7.9 Paper specification

NOTE:
All the dimensions shown in following figures are in millimetres.

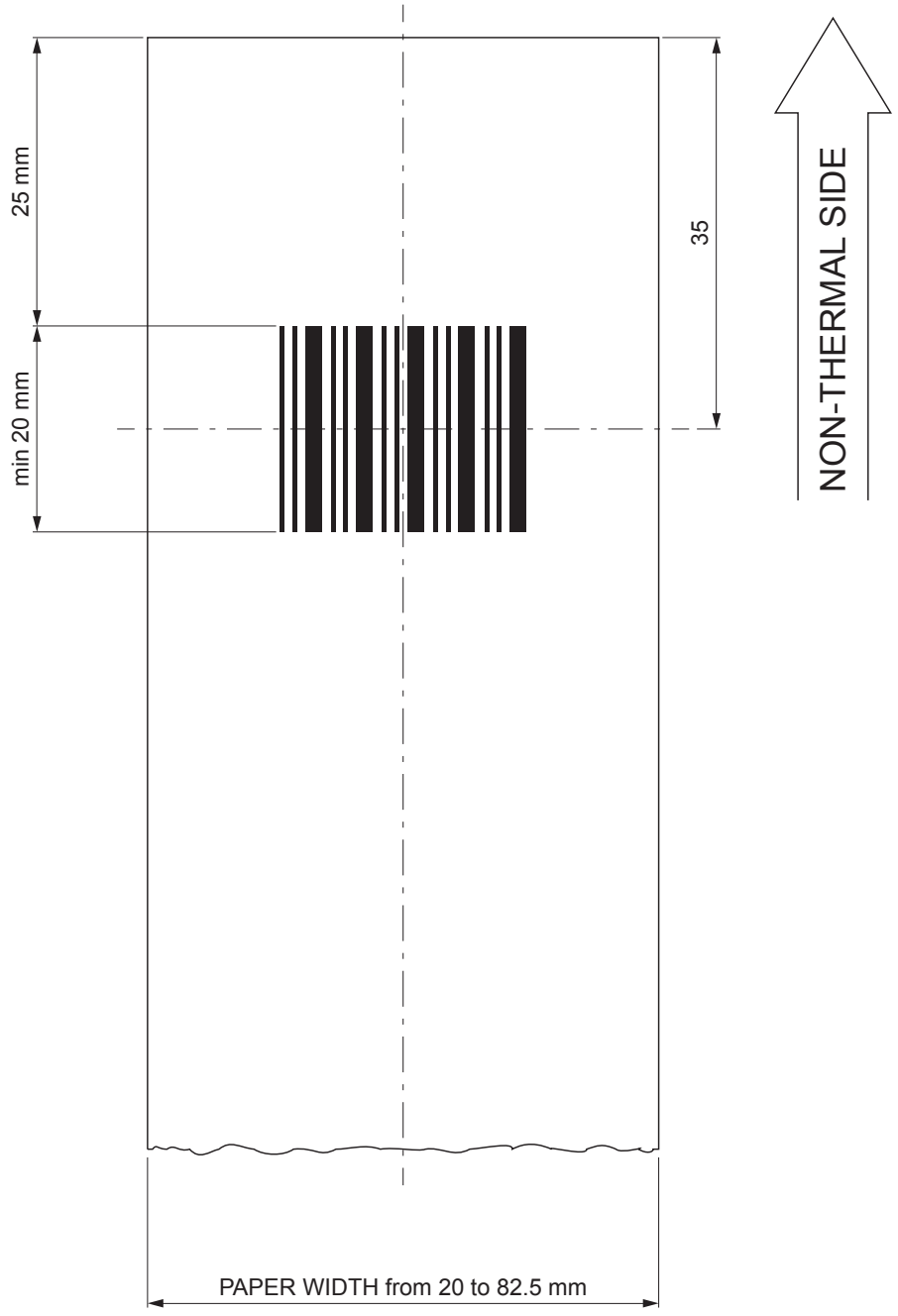
Paper with black mark

The following image shows the placement of the black mark on paper. The notch can be printed both on the thermal side and on the non-thermal side of paper and it can be placed anywhere on the whole width of the paper.
For more information about the use of paper with black mark see Chapter 10.



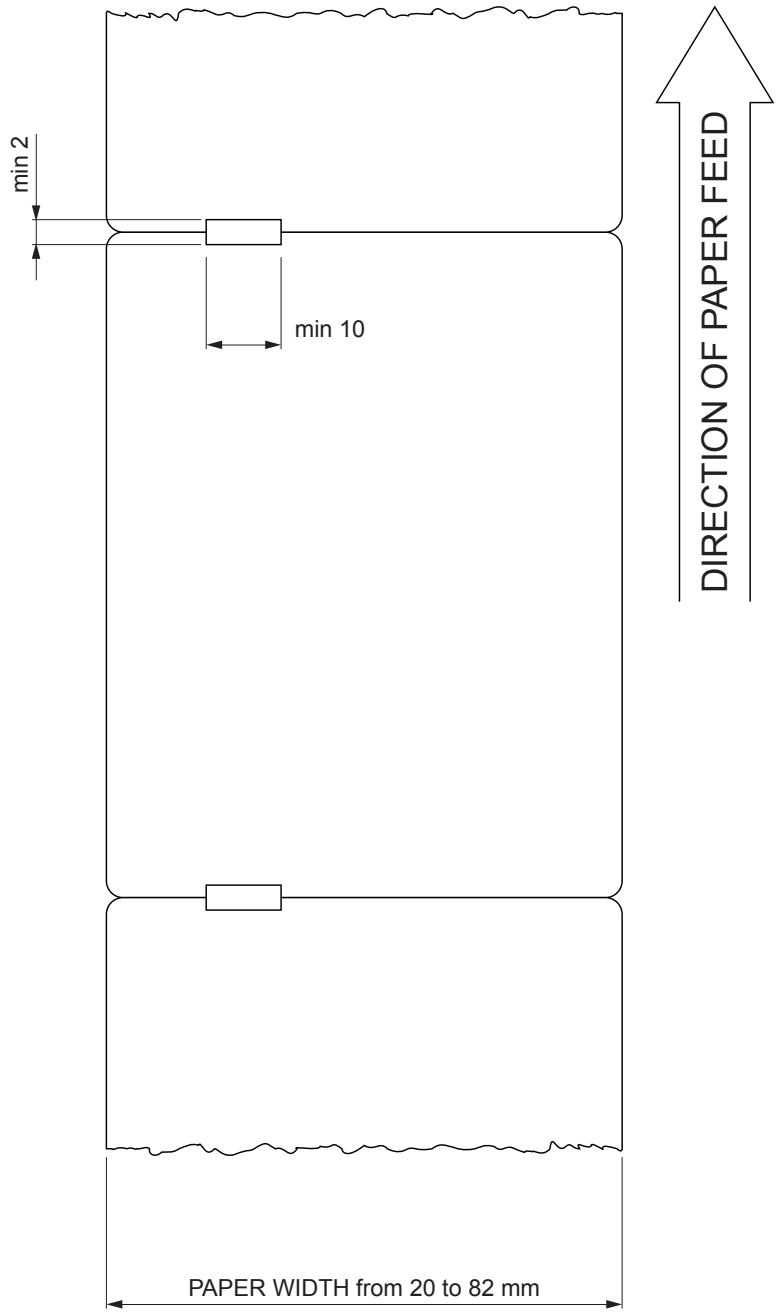
Paper with barcode (for models with barcode reader)

The following image shows the placement of the barcode on the ticket. The barcode must be printed on the non-thermal side of the paper and at 25 mm from the edge of the ticket to ensure the correct barcode reading when ticket alignment is performed.
For more information about the use of paper with barcode see Chapter 10.



Fanfold paper with hole (for models without triple feeder)

The following image shows the placement of the hole on the paper. The hole can be positioned across the width of the ticket.
To manage tickets with hole, set the parameter “Notch / B.Mark position” to “Transparent” (see par. 5.4).
For more information about the use of paper with hole see Chapter 10.

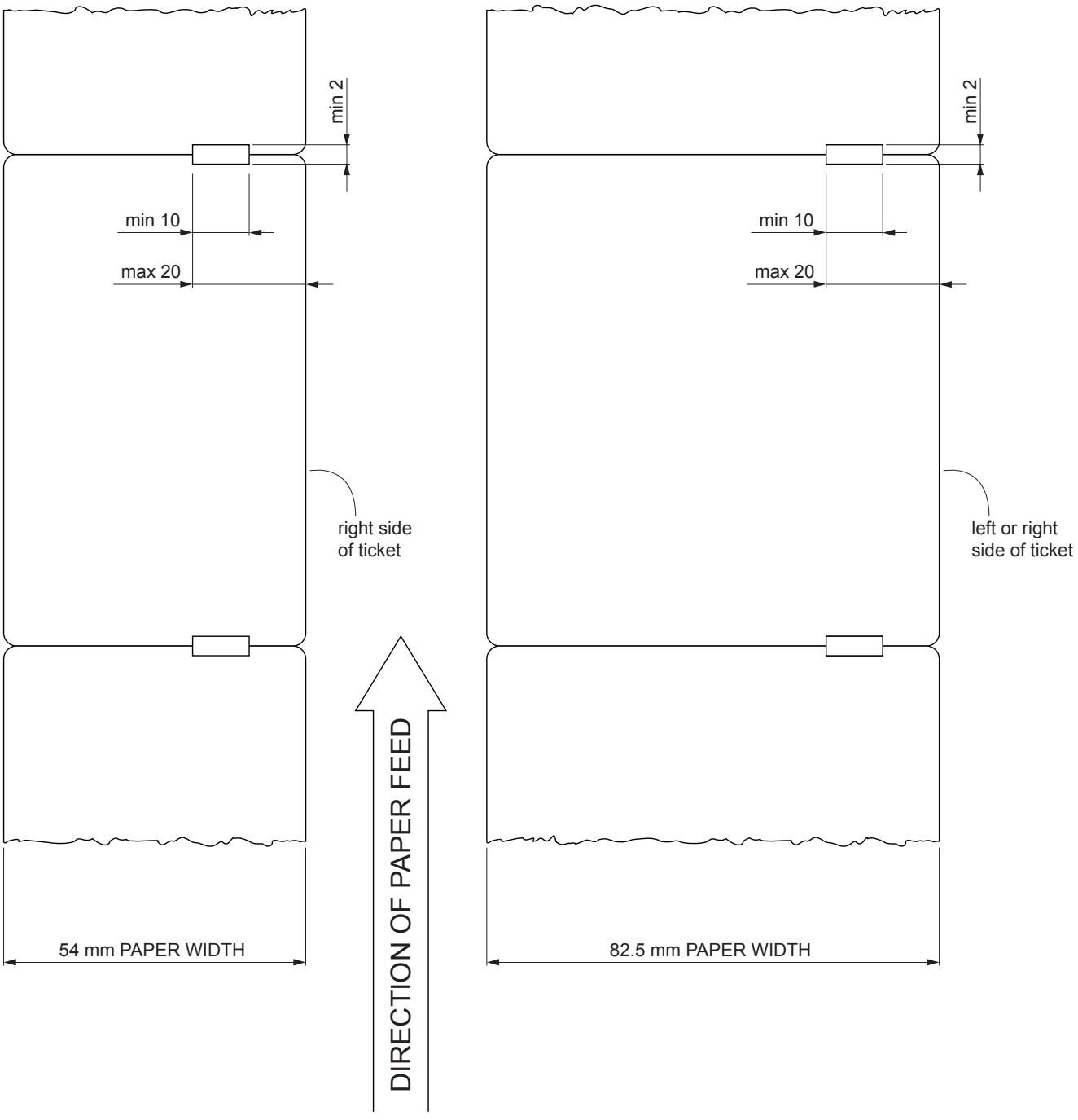


Fanfold paper with hole (for models with triple feeder)

The following image shows the placement of the hole on the paper. The hole can be positioned across the width of the ticket. To manage tickets with hole, set the parameter “Notch / B.Mark position” to “Transparent” (see par. 5.4).
For more information about the use of paper with hole see Chapter 10.

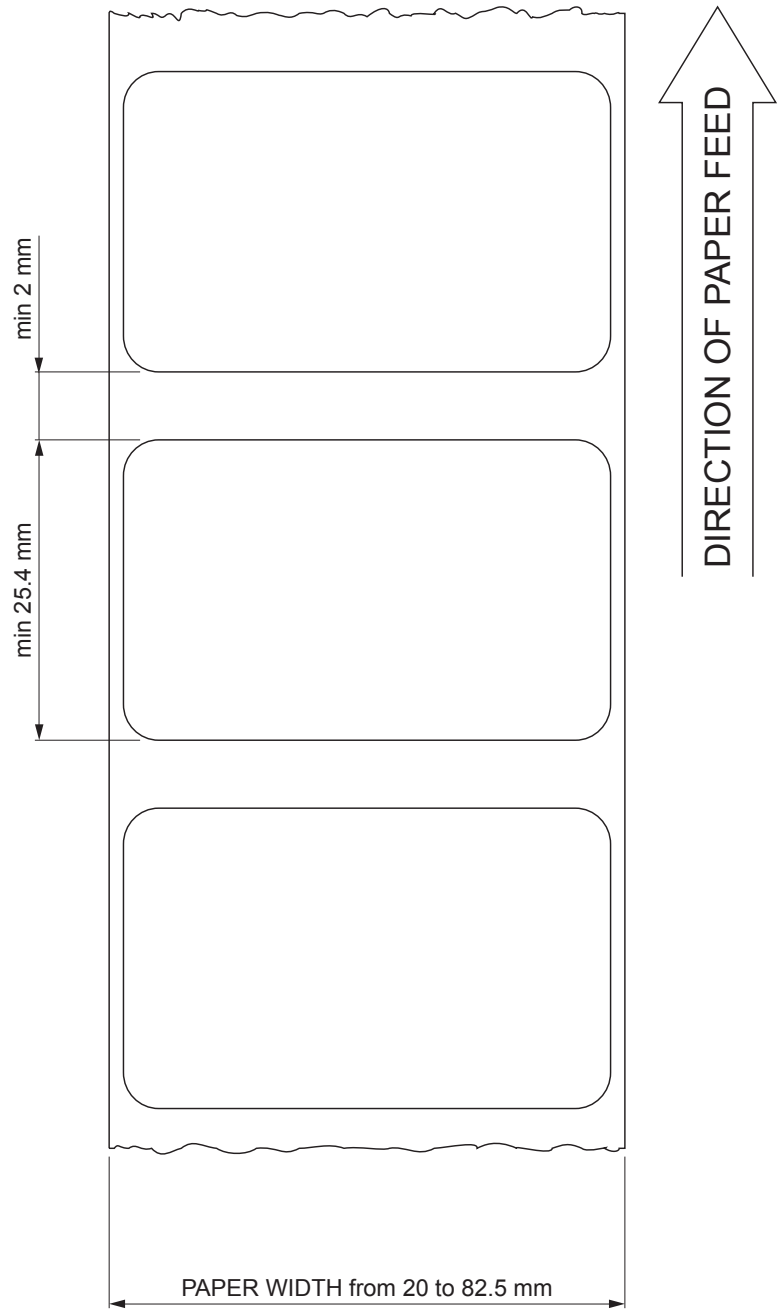
The hole must be positioned in a lateral position on ticket (see the following figures):

- for paper width = 82.5 mm, the hole may be positioned on the left and on the right side of the ticket
- for paper width = 54 mm, the hole may be positioned only on the right side of the ticket (next to the fixed paper guide).



Paper with labels (for models without triple feeder)

The following image shows a portion of paper with labels. To manage paper with label, you need to set a negative value for the parameter “Notch distance” (see par. 5.4).
For more information about the use of paper with hole see Chapter 10.



Ticket with RFID Tag (models with RFID reader/writer)

RFID (acronym for Radio Frequency IDentification) is a technology to identify automatically items using radio waves; this system is based on wireless data capture from RFID tag using appropriate readers. The RFID tag, or transponder, is made up of :

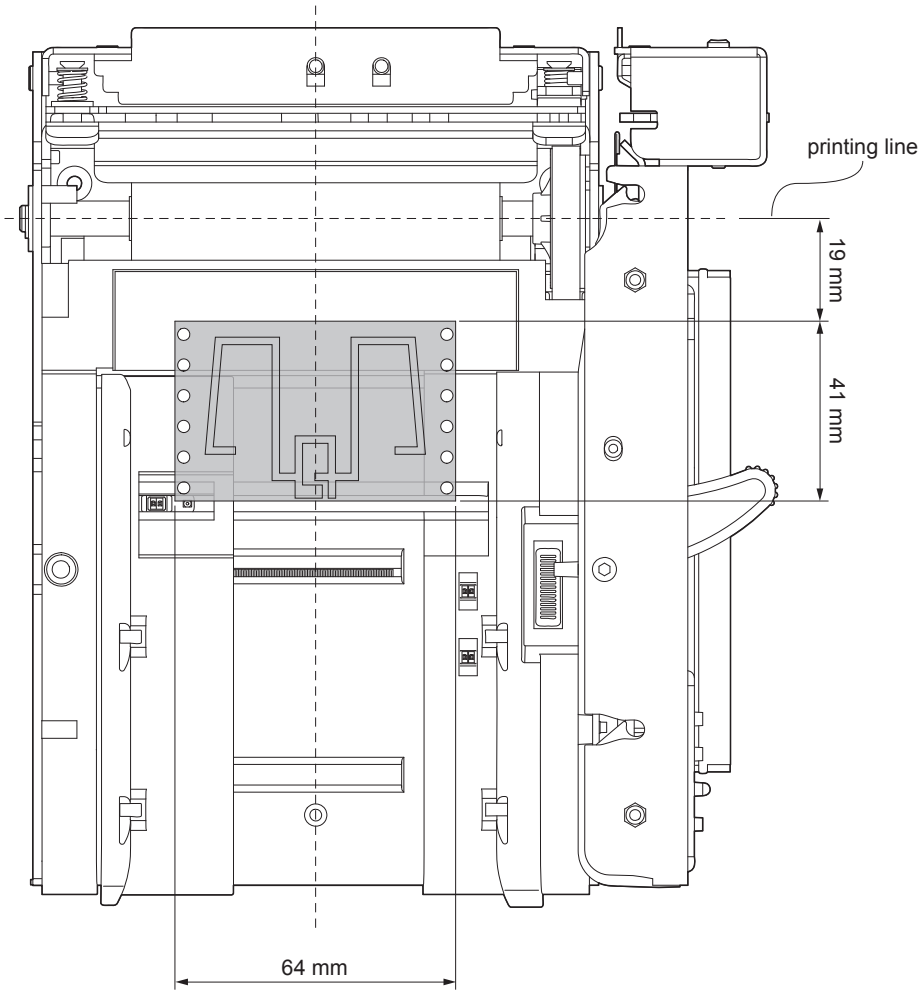
- the microchip that stores the data (including also a unique serial number written);
- an RFID antenna.

The device models equipped with RFID reader are equipped with an RFID transceiver, provided with antenna, that allows to send and receive RF data to and from the tag. For this application the ticket dimensions are not binding but for good reading is important that the tag inside the ticket, after alignment, intersects the antenna area.

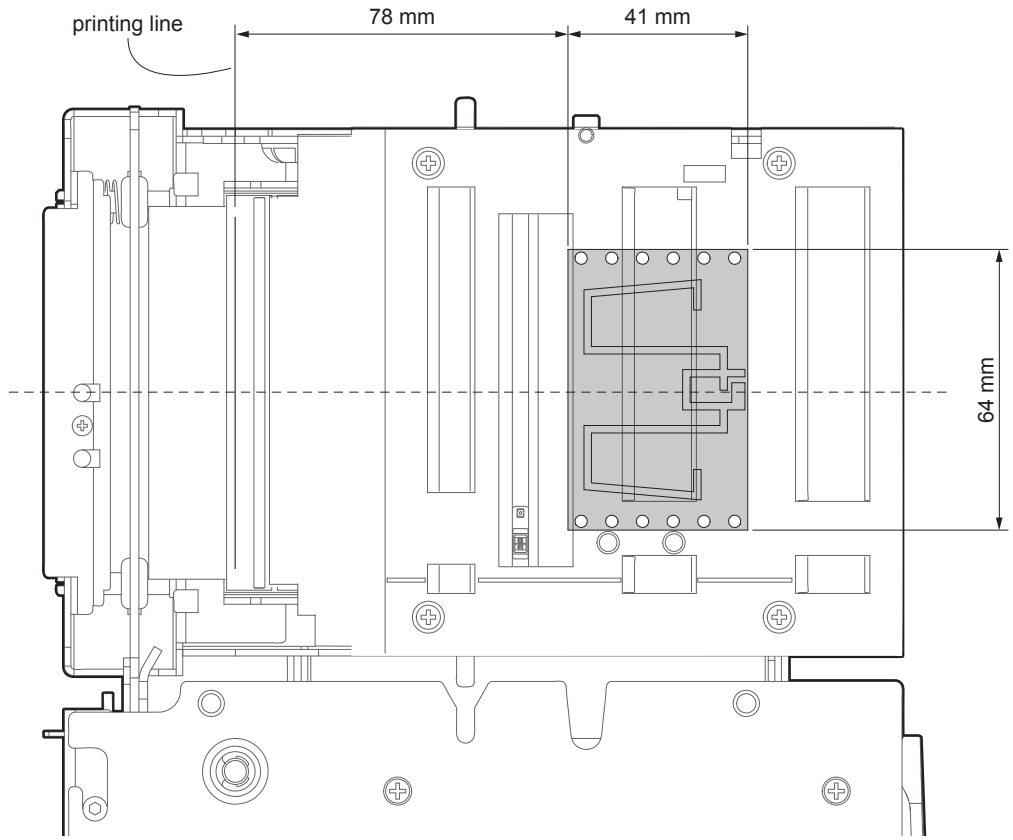
The following figures show the available positions of antenna RFID inside the device

NOTE: For ease of reference, for some models is represented only the printer group without the external plastic chassis or triple feeder.

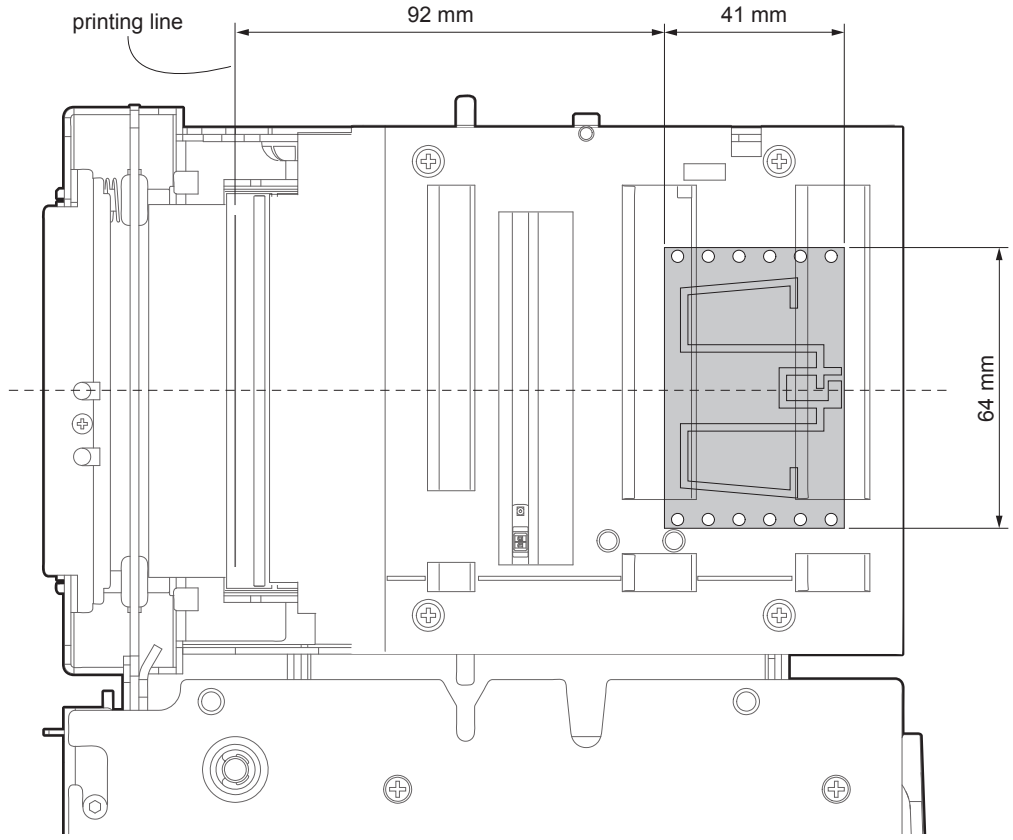
POSITION 1 (LOWER FLAT)



POSITION 2 (UPPER FLAT)

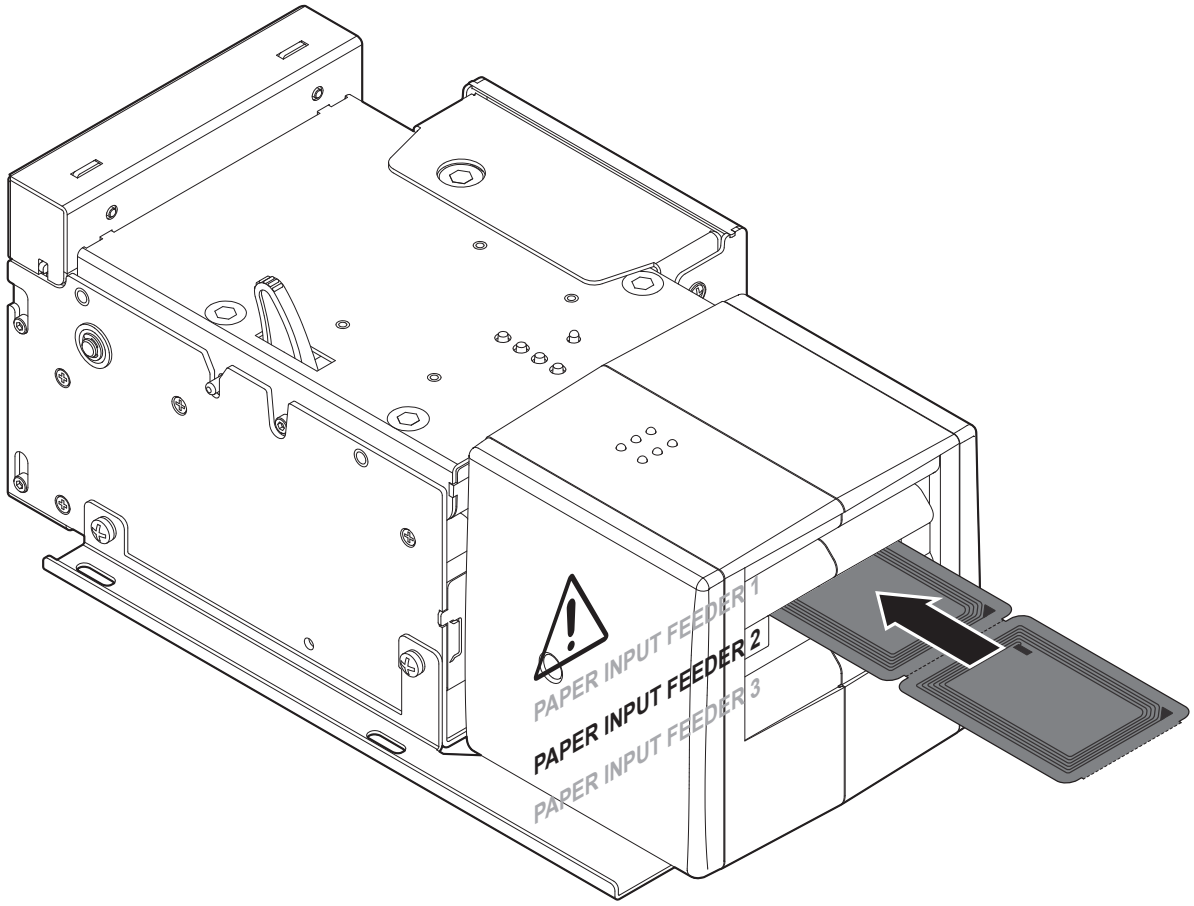


POSITION 3 (UPPER FLAT)



To use ticket with RFID tag with models with triple feeder, it is recommended to load ticket into the input feeder 2 (the central one), as shown in the following figure.

The use of paper inputs 1 and 3 causes a slight bending of paper and therefore the integrity of the TAG RFID is not guaranteed. Before proceeding, check with a sample ticket.



7.10 Character sets in CUSTOM/POS emulation

The device has 3 embedded fonts of varying width: 11, 15, 20 cpi for the 200 cpi model and 16, 23, 60 cpi for the 300 dpi model.
Each of these fonts offers the following code tables: PC437, PC850, PC860, PC863, PC865, PC858

PC437 CODE TABLE (Usa, Standard Europe)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	¢	£	¥	Pts	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	⌐	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC850 CODE TABLE (Multilingual)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	|	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	ð	Ð	Ê	Ë	È	ı	Í	Î	Ï	┘	┌	█	▄	¦	Ì	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	SHY	±	‗	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC860 CODE TABLE (Portuguese)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ã	à	Á	ç	ê	Ê	è	Í	Ô	ì	Ã	Â
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	À	È	ô	ö	ò	Ú	ù	Ì	Õ	Ü	¢	£	Ù	Pts	Ó
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	Ò	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC863 CODE TABLE (Canadian, French)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	Â	à	¶	ç	ê	ë	è	ï	î	‗	À	§
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	È	Ê	ô	Ë	Ï	û	ù	¤	Ô	Ü	¢	£	Ù	Û	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	¦	´	ó	ú	¨	¸	³	¯	Î	⌐	¬	½	¼	¾	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	ⁿ	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC865 CODE TABLE (Nordic)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	Pts	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	⌐	¬	½	¼	¡	«	¤
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	φ	ε	∩
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	≡	±	≥	≤	⌠	⌡	÷	≈	°	∙	·	√	n	2	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

PC858 CODE TABLE (Euro symbol)

Char	SP	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
Hex	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
Dec	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Char	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
Hex	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
Dec	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Char	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Hex	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
Dec	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Char	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
Hex	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
Dec	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
Char	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Hex	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F
Dec	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
Char	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
Hex	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
Dec	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
Char	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
Hex	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
Dec	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
Char	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
Hex	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
Dec	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
Char	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
Hex	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
Dec	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
Char	░	▒	▓	|	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
Hex	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
Dec	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
Char	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
Hex	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
Dec	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
Char	ð	Ð	Ê	Ë	È	€	Í	Î	Ï	┘	┌	▉	▄	¦	Ì	▀
Hex	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
Dec	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Char	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
Hex	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF
Dec	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
Char	SHY	±	‗	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	NBSP
Hex	00F0	00F1	00F2	00F3	00F4	00F5	00F6	00F7	00F8	00F9	00FA	00FB	00FC	00FD	00FE	00FF
Dec	240	241	242	243	244	245	246	247	248	249	250	251	252	253	251	255

NOTE:
To print the Euro (€) symbol, the command sequence is: 0x1B 0x74 0x13 0xD5 (see Commands Manual).

In CUSTOM/POS emulation, it is possible to use TrueType fonts. To be used, a TrueType font must be monospace type (every character of the font must have the same dimension). The check is made by the device when the font is selected. TrueType fonts will be automatically scaled by the device in order to obtain the same available width for the embedded fonts (11, 15 and 20 cpi for the 200dpi model and 16, 23 and 30 cpi for the 300dpi model).

The quality of TrueType fonts and the correct positioning into the printable area will result from the font producers and the font implementation.

For the correct printing of the code tables, it is necessary that the selected TrueType font contains all the characters in the tables. Otherwise, the '□' symbol will be printed instead the missing character.
All commands for printing configuration are usable both with TrueType fonts and with embedded fonts.
It is possible to address the TrueType font respects the UNICODE™ standard (see www.unicode.org), by using UTF-8 or UTF-16 encoding.

7.11 Character sets in SVELTA emulation

In SVELTA emulation the device has 20 embedded fonts of varying width which may be accessed through control characters (see commands description in SVELTA emulation of Command Reference). The following list shows the font available and relative dimensions in dot:

- Font HEL8PT8 (A) Proportional Font with fixed height (H = 28 dot)
- Font HEL10PT8 (A) Proportional Font with fixed height (H = 34 dot)
- Font HEL14PT8 (A) Proportional Font with fixed height (H = 50 dot)
- Font HEL16PT8 (A) Proportional Font with fixed height (H = 55 dot)
- Font 18x24 (Font 18x24 in ESC/POS emulation)
- Font 14x24 (Font 14x24 in ESC/POS emulation)
- Font 10x24 (Font 10x24 in ESC/POS emulation)
- Font 8x12 (B) Fixed Font
- Font 8x12-2 (B) Fixed Font
- Font 12x12 (B) Fixed Font
- Font 14x11 (B) Fixed Font
- Font 16x24 (B) Fixed Font
- Font 16x24_1 (B) (C) Fixed Font
- Font 16x24_2 (B) (C) Fixed Font
- Font 20x15 (B) Fixed Font
- Font 28x20 (B) Fixed Font
- Font 14x24_1 (B) (C) Fixed Font
- Font 16x24CN (B) (C) Fixed Font
- Font OCRB (20x32) (B) Fixed Font

For further informations to characters representations print directly the Font Test(D).

NOTES:
(A) : A proportional font is a font in which different characters have different pitches (widths).
(B) : A fixed font is the opposite of a proportional font and is a fixed-pitch font.
(C) : The fonts with the same name and dimension contain different characters in different positions from theirs.
(D) : During power-up, if the FORM FEED (FF) key is held down, the device executes the FONT TEST.

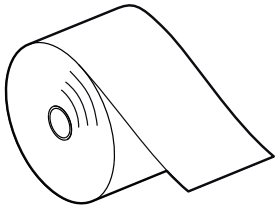
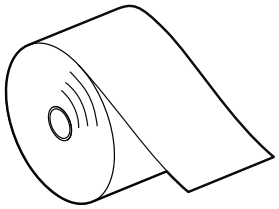
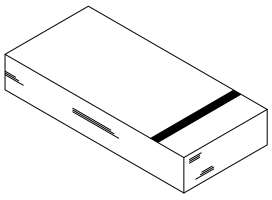
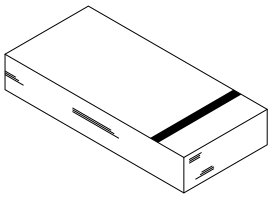
In SVELTA emulation, it is possible to use TrueType fonts. True Type fonts are printable with every angle of rotation and in bold, reverse, italic and underlined mode.

It is possible to address the TrueType font respects the UNICODE™ standard (see www.unicode.org), by using UTF-8 or UTF-16 encoding.

For the correct printing of the code tables, it is necessary that the selected TrueType font contains all the characters in the tables. Otherwise, the '□' symbol will be printed instead the missing character.

8 CONSUMABLES

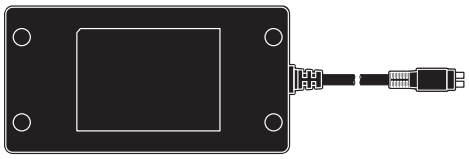
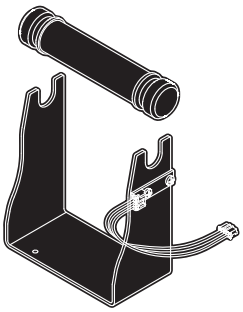
The following table shows the list of available consumables for device:

DESCRIPTION	CODE
KPM302, KPM303	
THERMAL PAPER ROLL weight = 180 g/m^2 width = 80 mm Ø external = 180 mm Ø core = 25 mm	**67300000000386** 
THERMAL PAPER ROLL weight = 180 g/m^2 width = 82.5 mm Ø external = 150 mm Ø core = 45 mm	**67300000000409** 
TK302, TK303	
THERMAL FANFOLD MODULE (100 tickets) weight = 170 g/m^2 dimensions = 152 mm x 80 mm	**67A00000000308** 
THERMAL FANFOLD MODULE (100 tickets) weight = 140 g/m^2 dimensions = 152 mm x 80 mm	**67A00000000304** 

9 ACCESSORIES

The following table shows the list of available accessories for device.

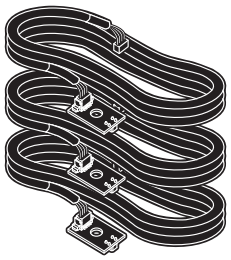
KPM302, KPM303

DESCRIPTION	CODE
all models	
POWER SUPPLY (for technical specifications, see paragraphs 7.1 and 7.8)	**963GE020000004** 
ADAPTER CABLE FOR POWER SUPPLY (see the paragraph 9.2)	**26600000000348**
ADAPTER CABLE FOR POWER SUPPLY WITH ON/OFF SWITCH (see the paragraph 9.2)	**26600000000349**
PAPER ROLL HOLDER (see paragraphs 9.1)	**974AU010000305** 

only for models with triple feeder

26300000000453

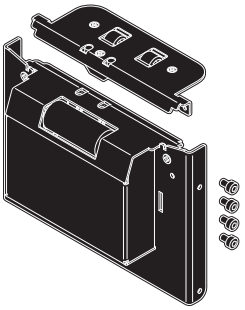
WIRINGS KIT WITH NEAR PAPER END SENSORS
(see paragraph 9.3)



only for standard models

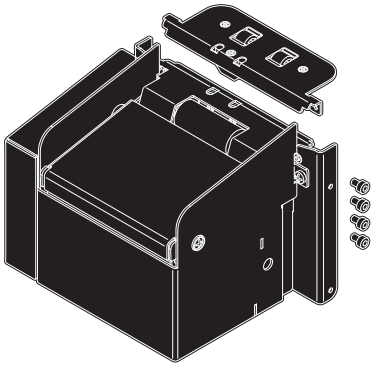
976AU010000317

EJECTOR DEVICE



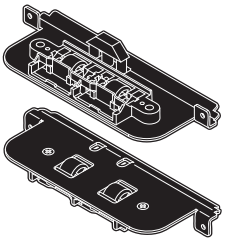
976AU010000318

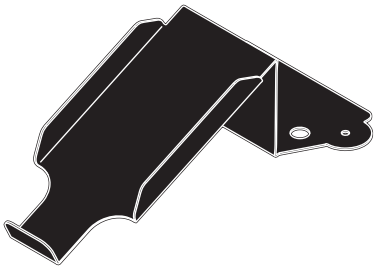
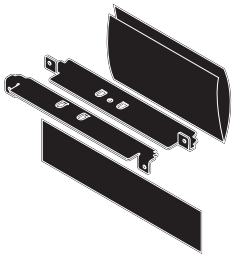
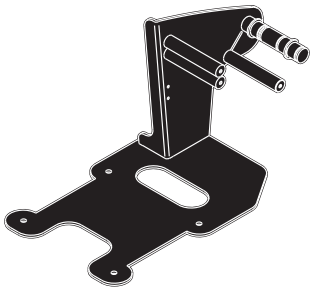
SELECTOR DEVICE
FOR HORIZONTAL FIXING



976AV010000002

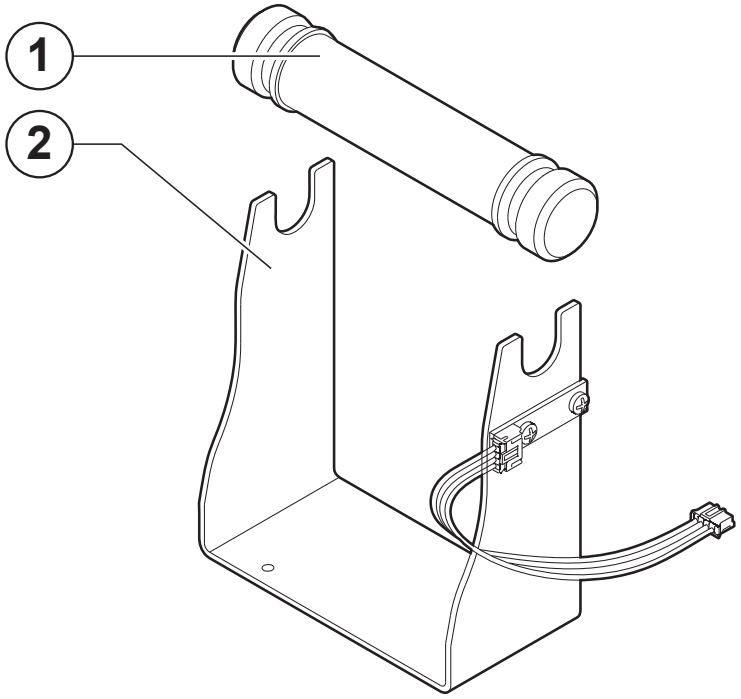
KIT FOR RETENTION TICKET DEVICE



DESCRIPTION	CODE
TICKET TRAY	**976BB010000003 (black)** **976BB010000002 (white)** **976BD010000001 (transparent)** 
KIT FOR BURSTER CONFIGURATION	**976BA010000323** 
PAPER ROLL HOLDER	**974BA010000312** 

9.1 Paper roll holder

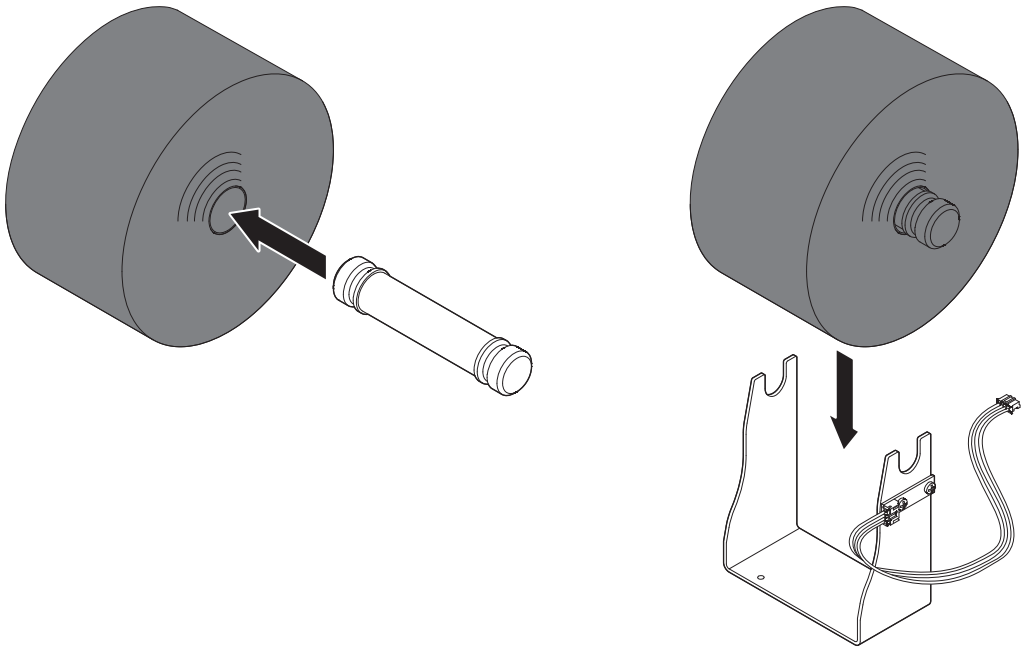
For the device is available an external paper roll holder kit 974AU010000305 (supplied as an accessory). The kit makes it possible to use paper rolls with larger diameter (Øext.150mm max).
The kit includes:
1. Paper roll pin.
2. Paper holder support with near paper end sensor.



For the assembly procedure, proceed as follows:

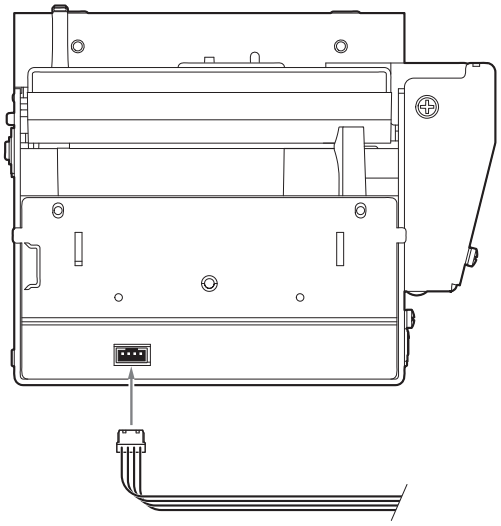
Models without triple feeder

1



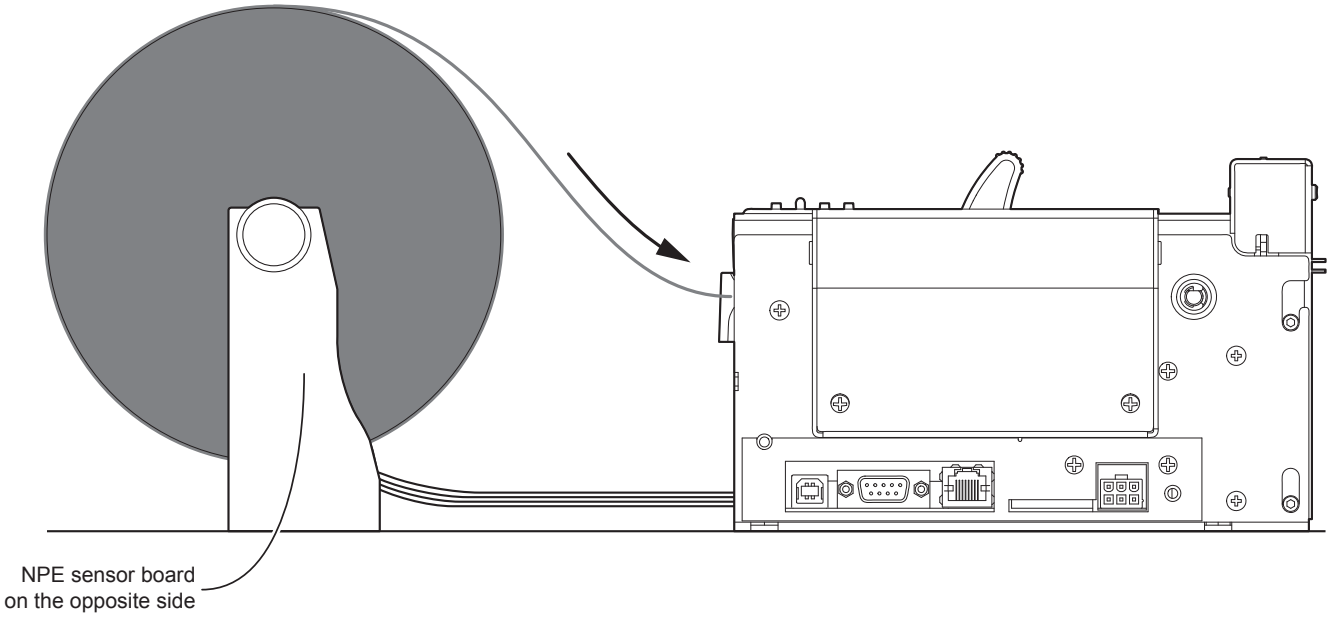
Insert the pin in the paper roll and then
put the asembled roll on the support.

2



Connect the cable for the near paper end sensor (NPE)
to the device connector.

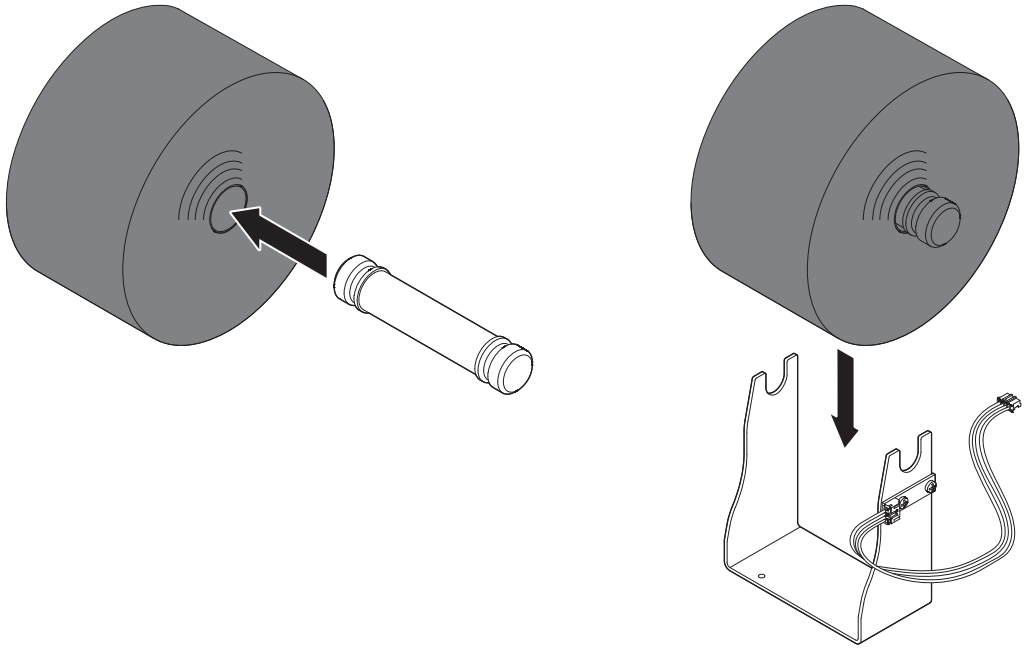
3



Place the roll holder as shown in figure
and load the paper (see previous paragraphs).

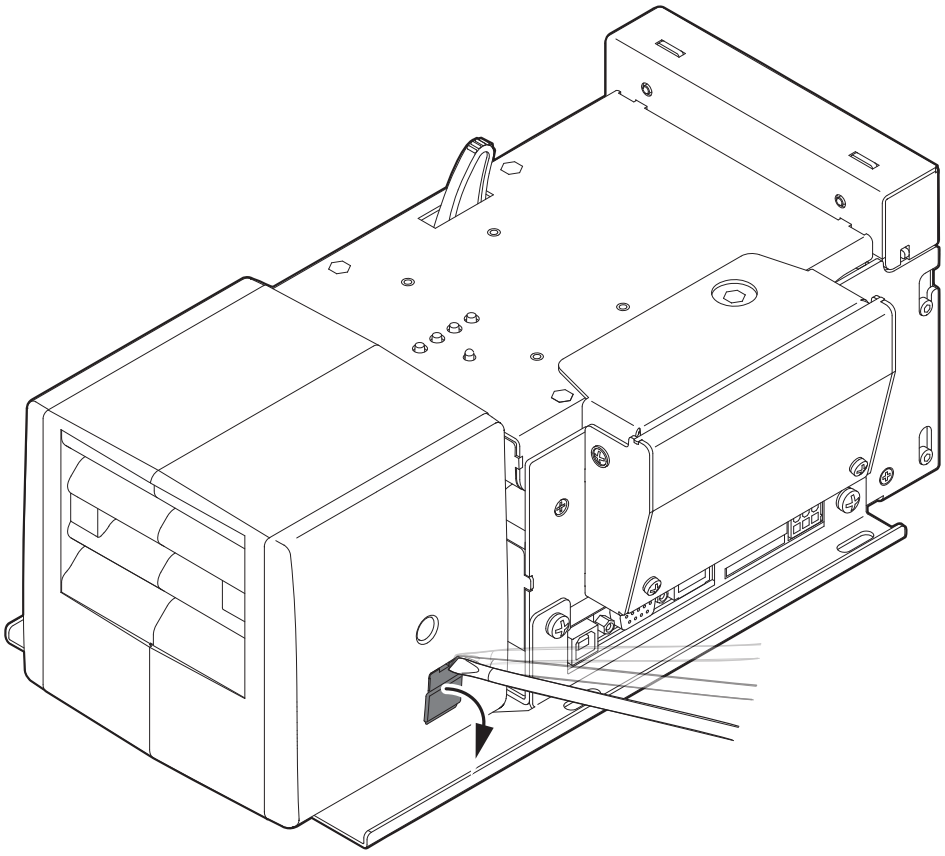
Models with triple feeder

1



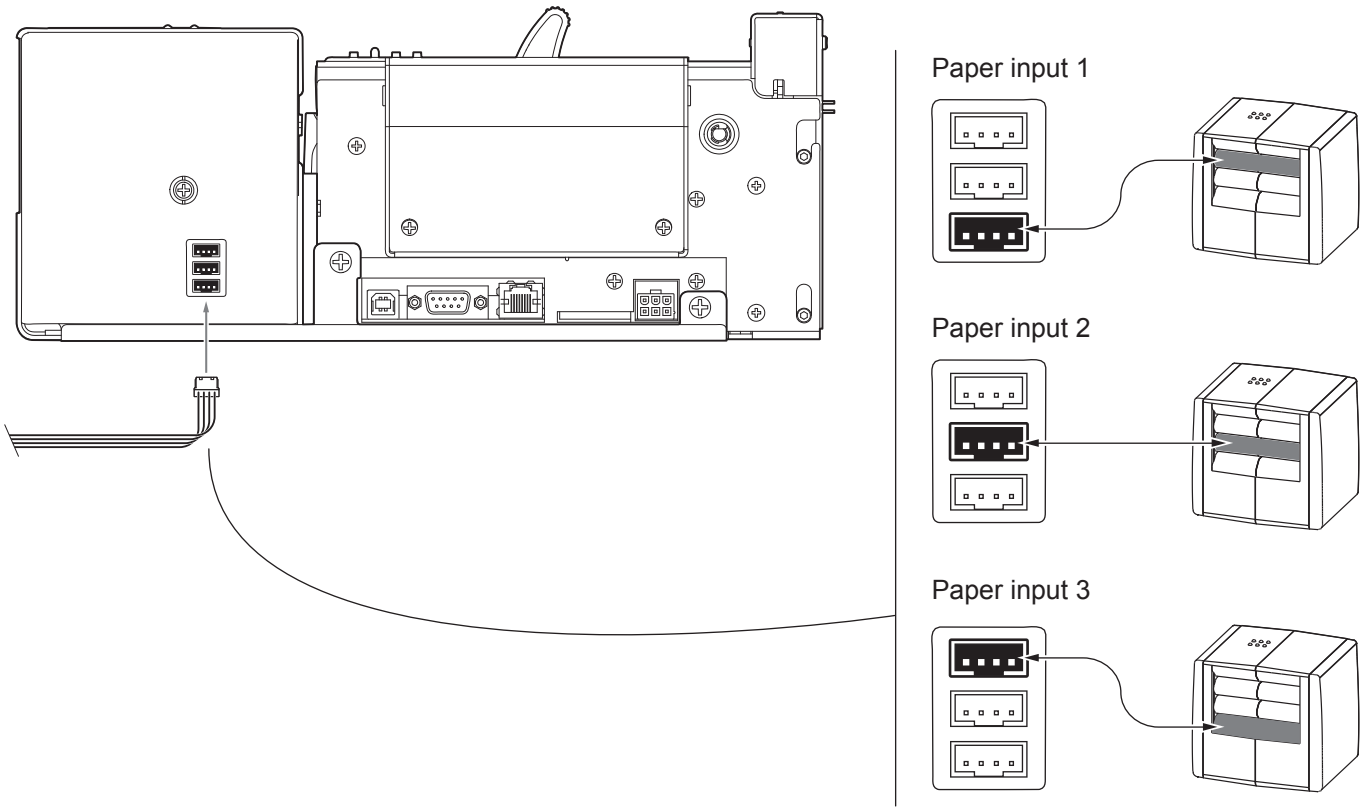
Insert the pin in the paper roll and then
put the asembled roll on the support.

2



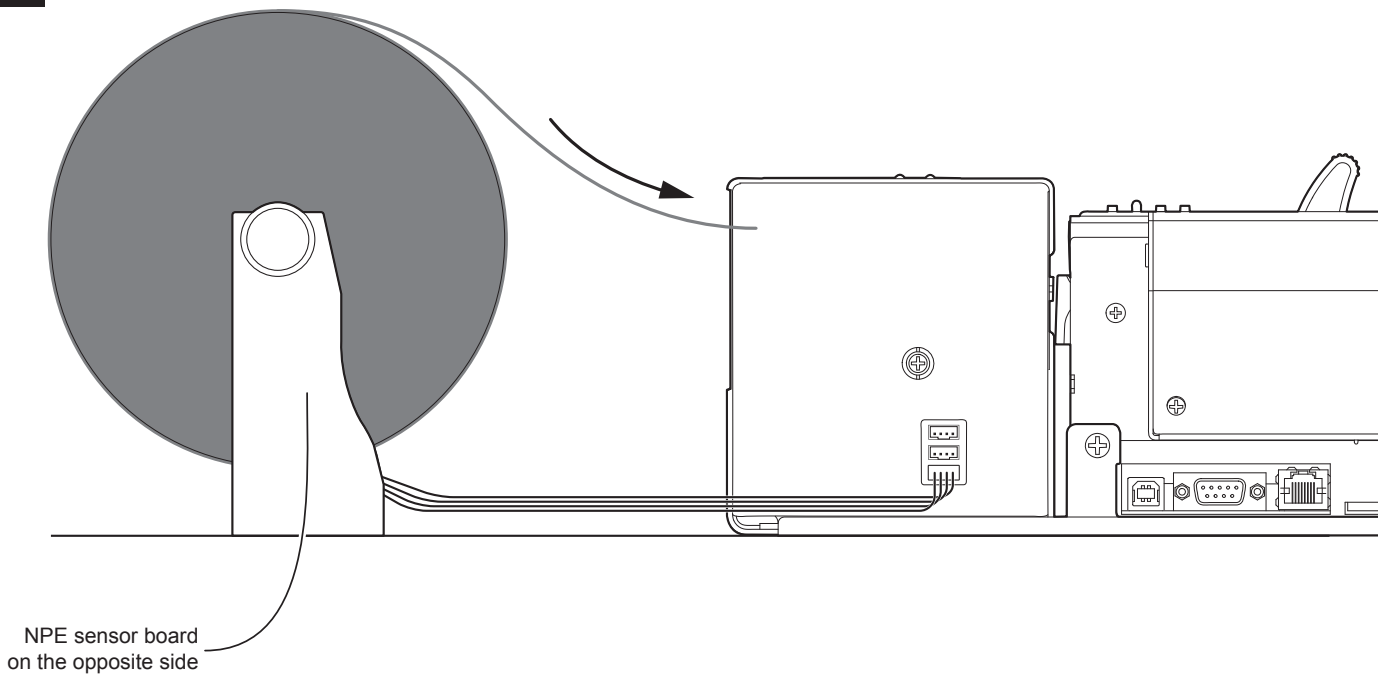
Remove the cover for the triple feeder connectors
by levering with a small slotted head screwdriver.

3



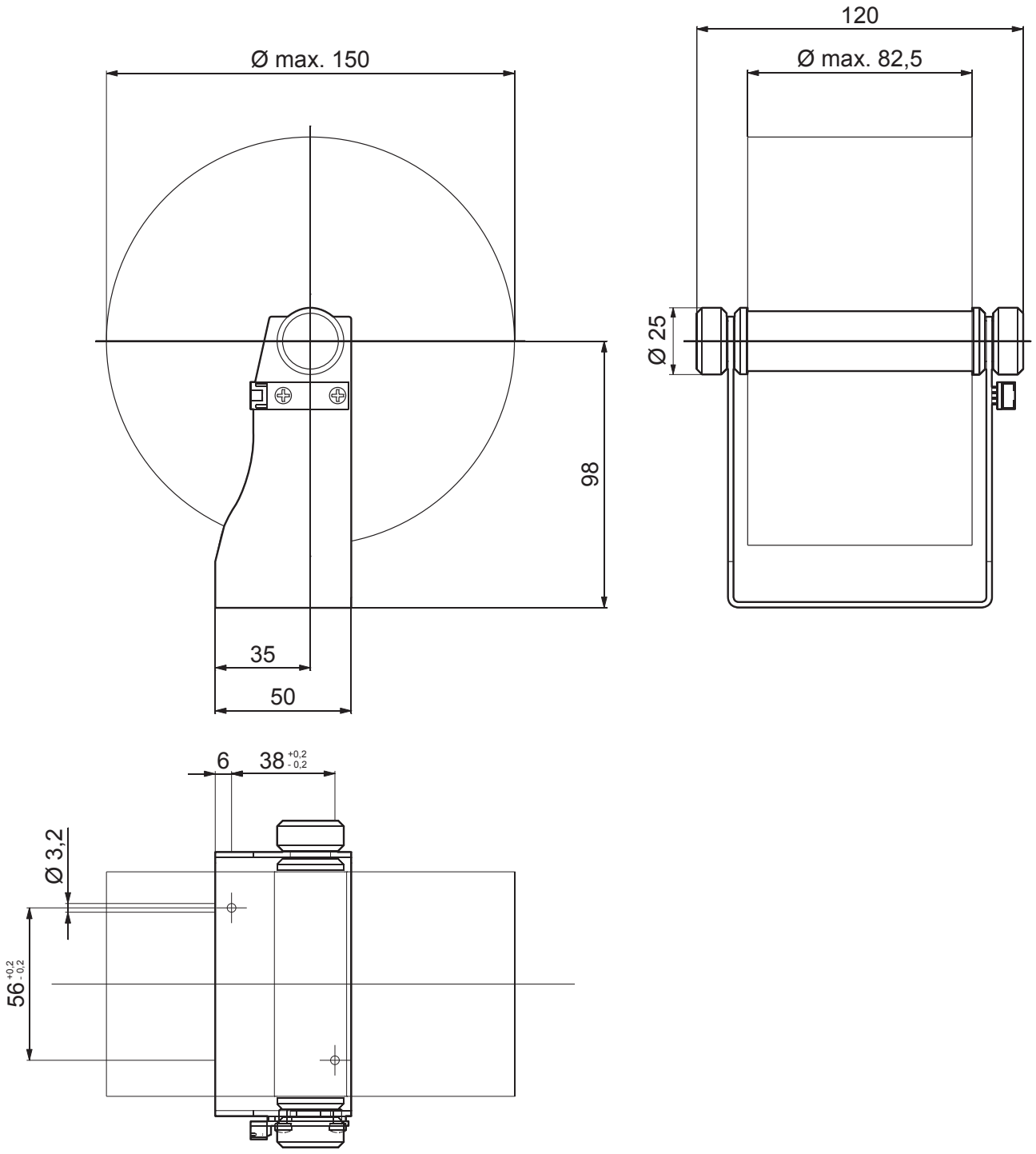
Connect the cable for the near paper end sensor (NPE)
to the device connector related to the paper input to use.

4



Place the roll holder as shown in figure
and load the paper (see previous paragraphs).

The following figure shows the specifications for holder and paper roll.



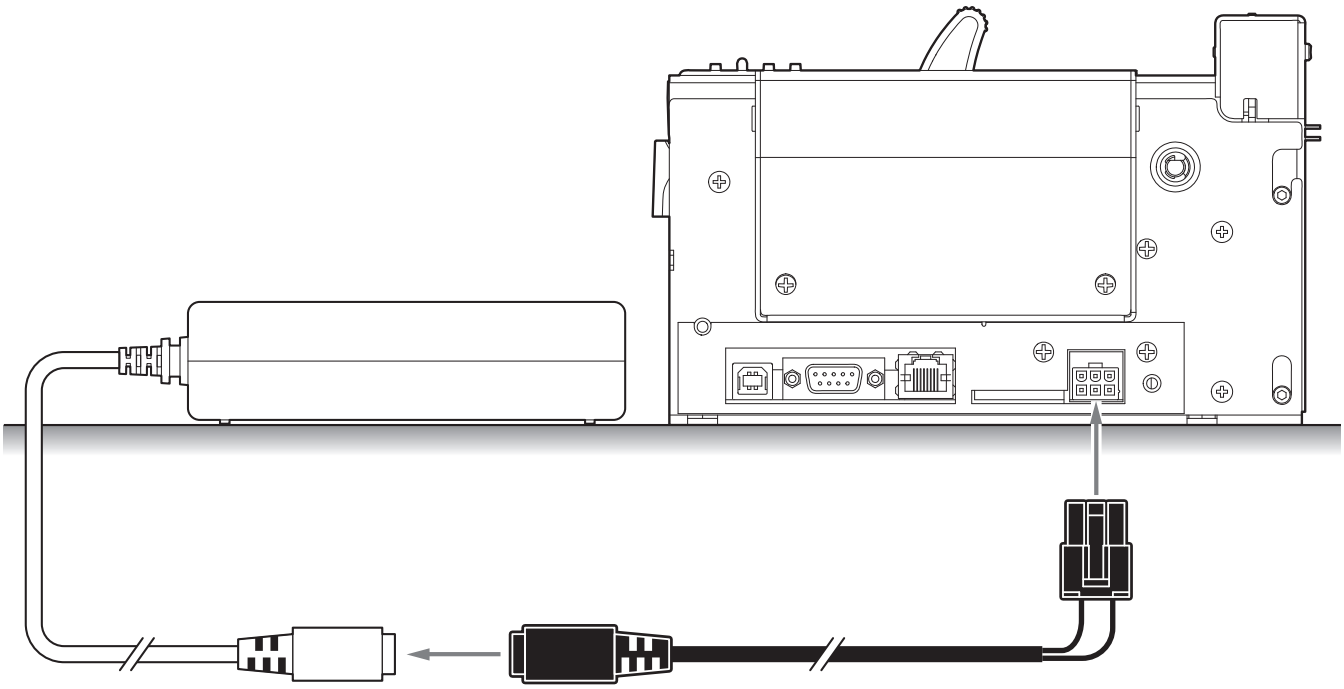
NOTES:
All the dimensions in figure are in millimetres.

For external rolls diameter higher to 100 mm it's recommended to use a paper pre-tensioning device.

9.2 Adapter cable for power supply

For the device are available two adapter cable supplied as accessory, for connecting the device to the external power supply unit (cod. 963GE020000004 - optional):
- cod. 26600000000348 : adapter cable
- cod. 26600000000349 : adapter cable with ON/OFF switch

For the assembly procedure, see the following figure:

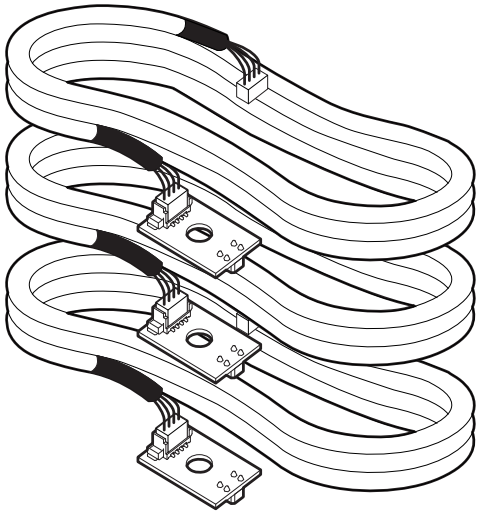


NOTA:
For ease of reference, it is represented only the printer group without the triple feeder.

9.3 Wirings kit with near paper end sensors

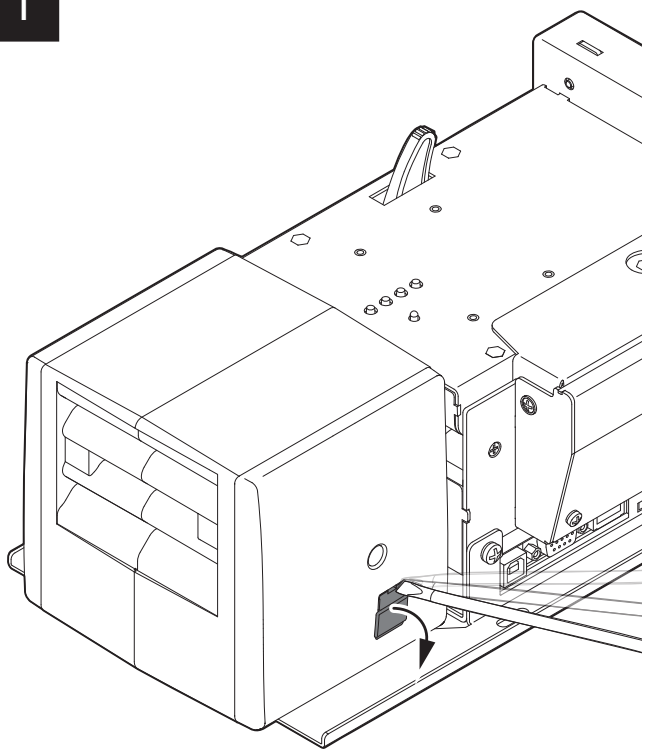
For the device is available a kit of wirings with near paper end sensor 26300000000453 (supplied as an accessory). The kit makes it possible the connection between triple feeder and near paper end sensors.

The kit includes three wirings assembled with three near paper end sensors boards, as shown in following figure.



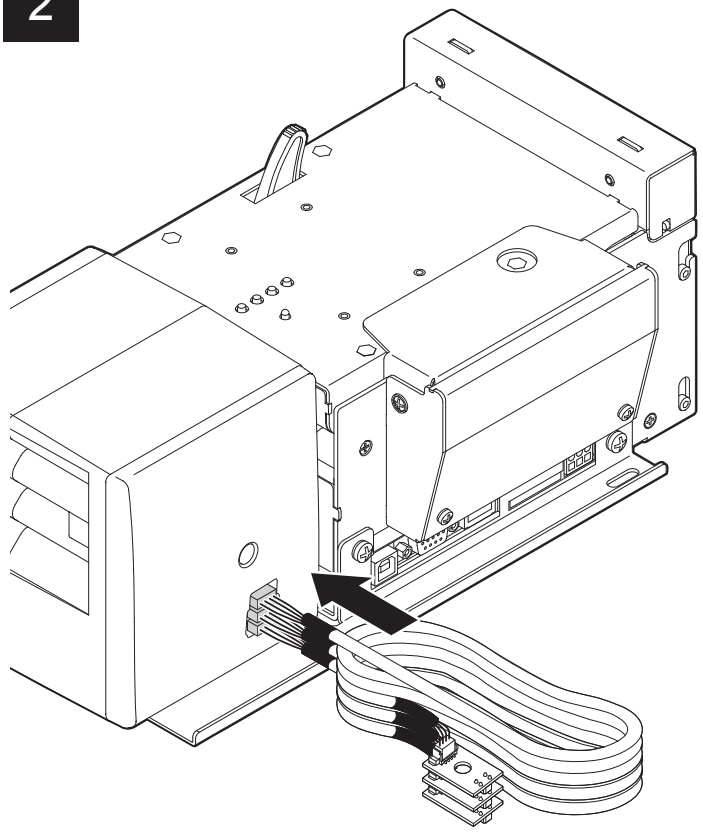
For the assembly procedure, proceed as follows:

1



Remove the cover for the triple feeder connectors by levering with a small slotted head screwdriver.

2



Connect the three wirings to the connectors of triple feeder.

10 ALIGNMENT

Device is provided with sensors for the use of alignment notch in order to handle:
- roll of tickets with pre-printed fields and a fixed length;
- Fan-Fold module of tickets with pre-printed fields and a fixed length.

The alignment notch may be formed by (see par.7.9):
- black mark printed on paper;
- hole between two tickets;
- gap between two labels (only for models without triple feeder).

All alignment sensors are “reflection” sensors: this kind of sensor emits a band of light and detects the quantity of light reflected to it.
The presence of the notch is therefore detected by the amount of light that returns to the sensor, considering that the light is reflected by the white paper and absorbed by the black mark.

To use tickets with holes or labels with gap, it is possible to use the same sensors as “transparence” sensors, coupled two by two: a beam of light is emitted by the transmitter sensor and the quantity of light which reaches the opposite receiver sensor is detected.
The presence of the hole/gap is detected evaluating the amount of light that arrives to the opposite sensor, considering that the paper doesn’t allow the beam of light to reach the receiver, whereas a gap or a hole lets the light to reach the receiver.

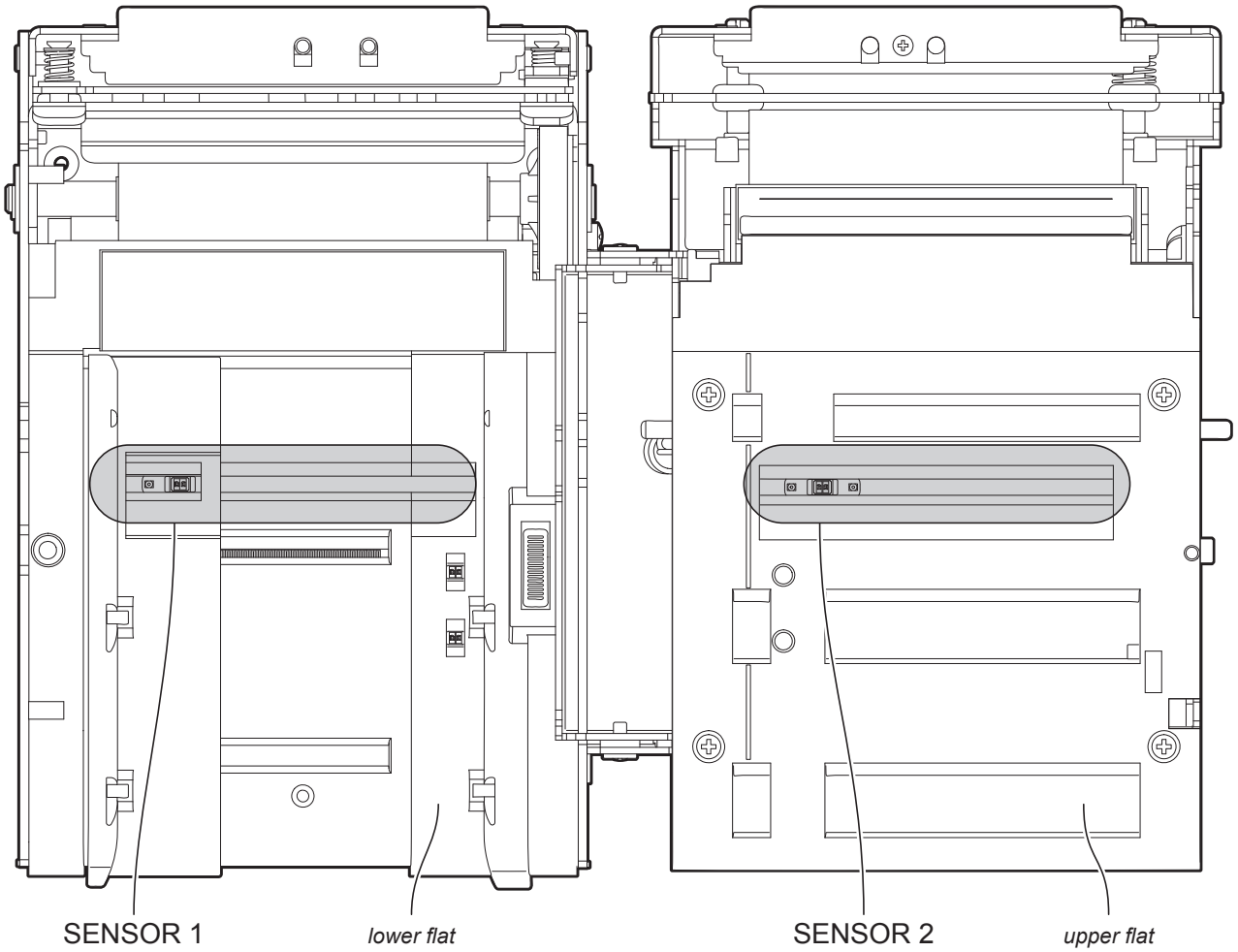
The following paragraphs show how to correctly set the configuration parameters of device in order to assure the alignment.

10.1 Enable alignment

Device is provided with two sensors for alignment, placed as follows:
- one mobile sensor on the lower flat
- one mobile sensor on the upper flat.

To guarantee the alignment, it is necessary to correctly choose the sensor to use for the notch detection depending on the type of notch and its location on the ticket.
To do this, you must enable the parameter “Notch/B.Mark Position” during the Setup procedure (see chapter 5) and set the correct value of this parameter as described in the following table.

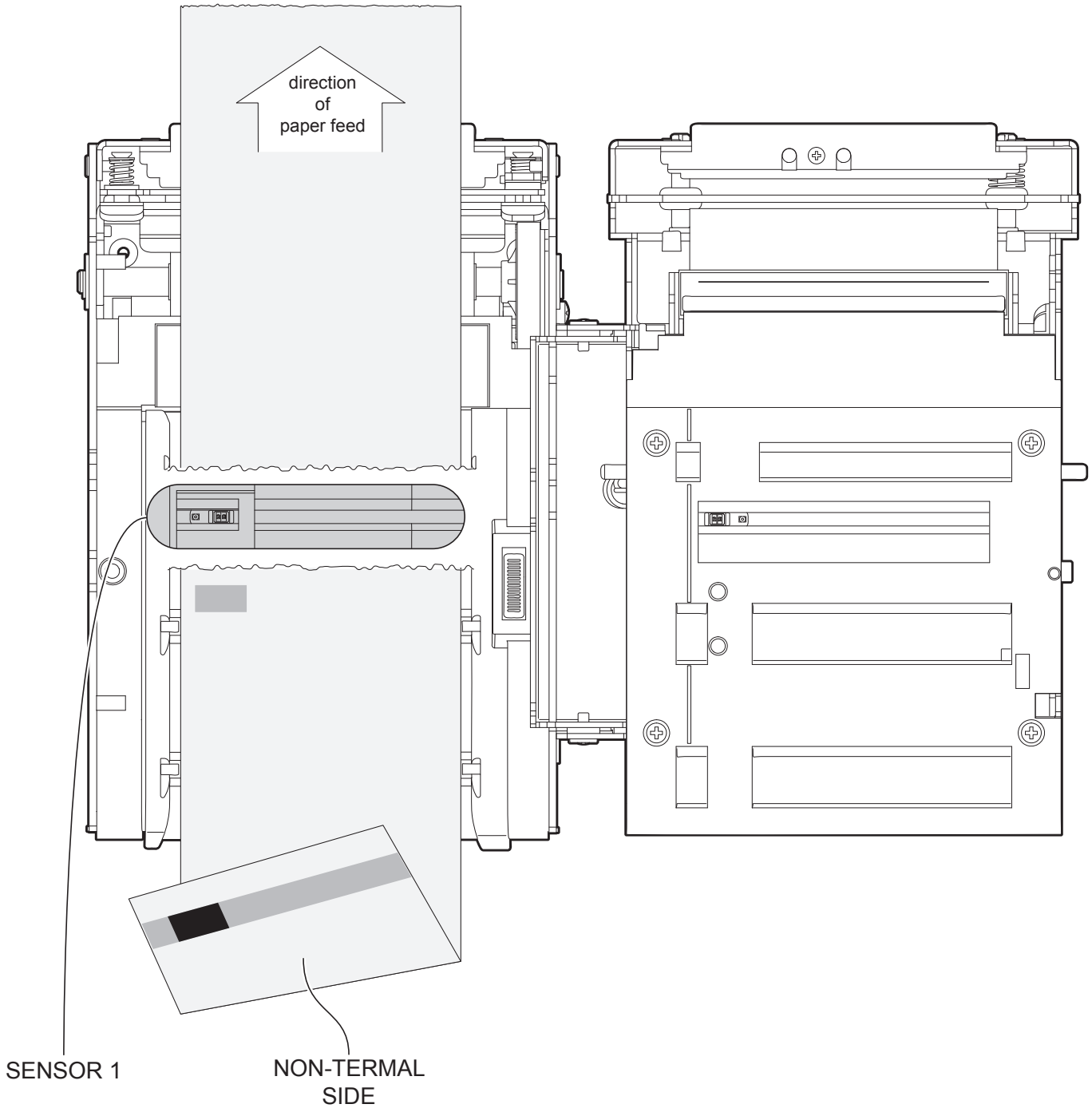
SENSOR USED	VALUE OF THE “NOTCH/B.MARK POSITION” PARAMETER	USING MODE OF SENSORS	NOTCH TYPE
-	Disabled	-	Alignment disabled
1	Bottom	Reflection	Black mark printed on the non-thermal side of paper
2	Top	Reflection	Black mark printed on the thermal side of paper
1 + 2	Transparent	Transparence	Hole between tickets or gap between labels



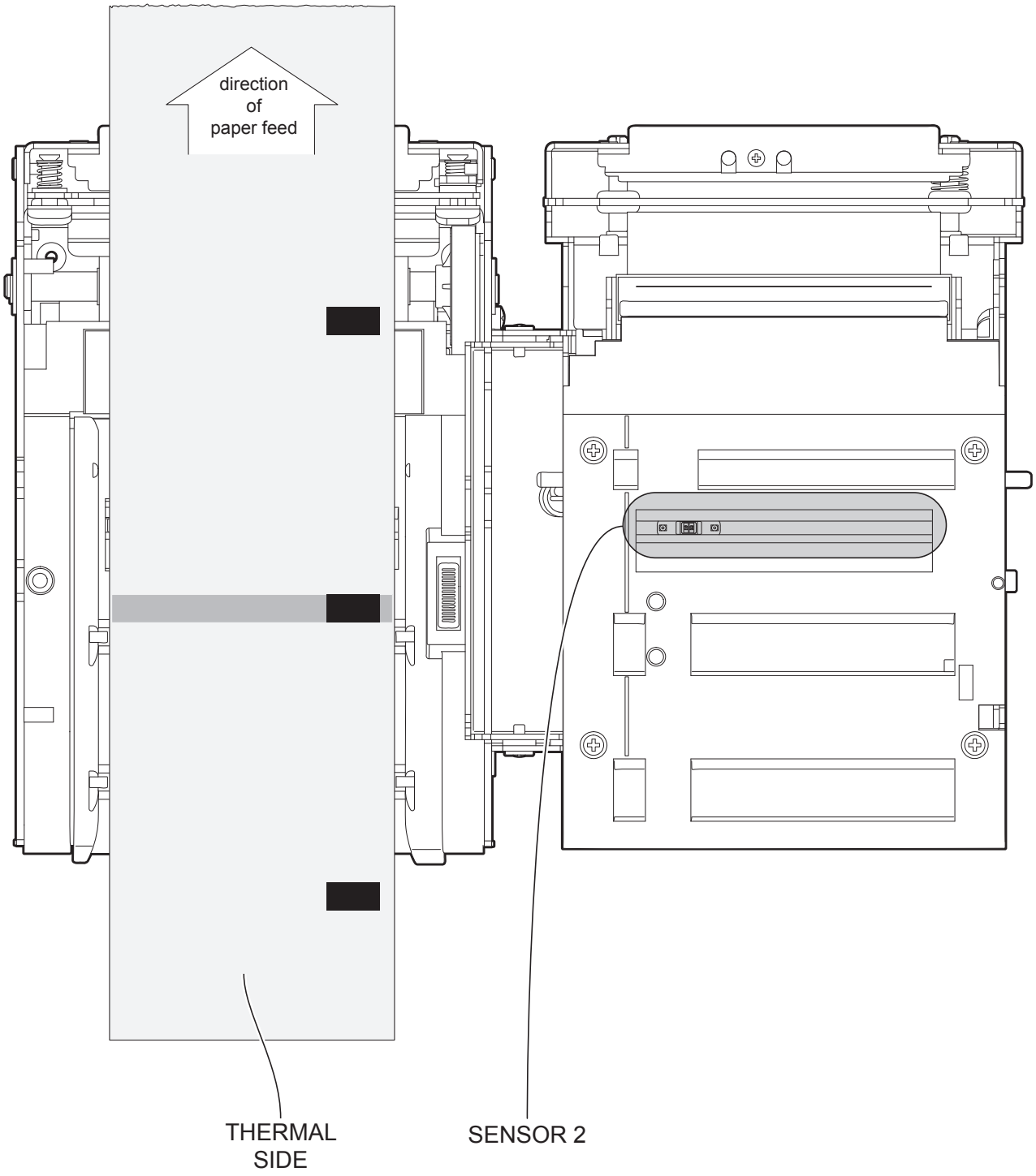
NOTE: For ease of understanding, the image shows the two flats represented in the same plane.
For ease of reference, for some models is represented only the internal printer group without the external plastic chassis or triple feeder.

The following figures show the usable format of paper and the corresponding sensors used for alignment:

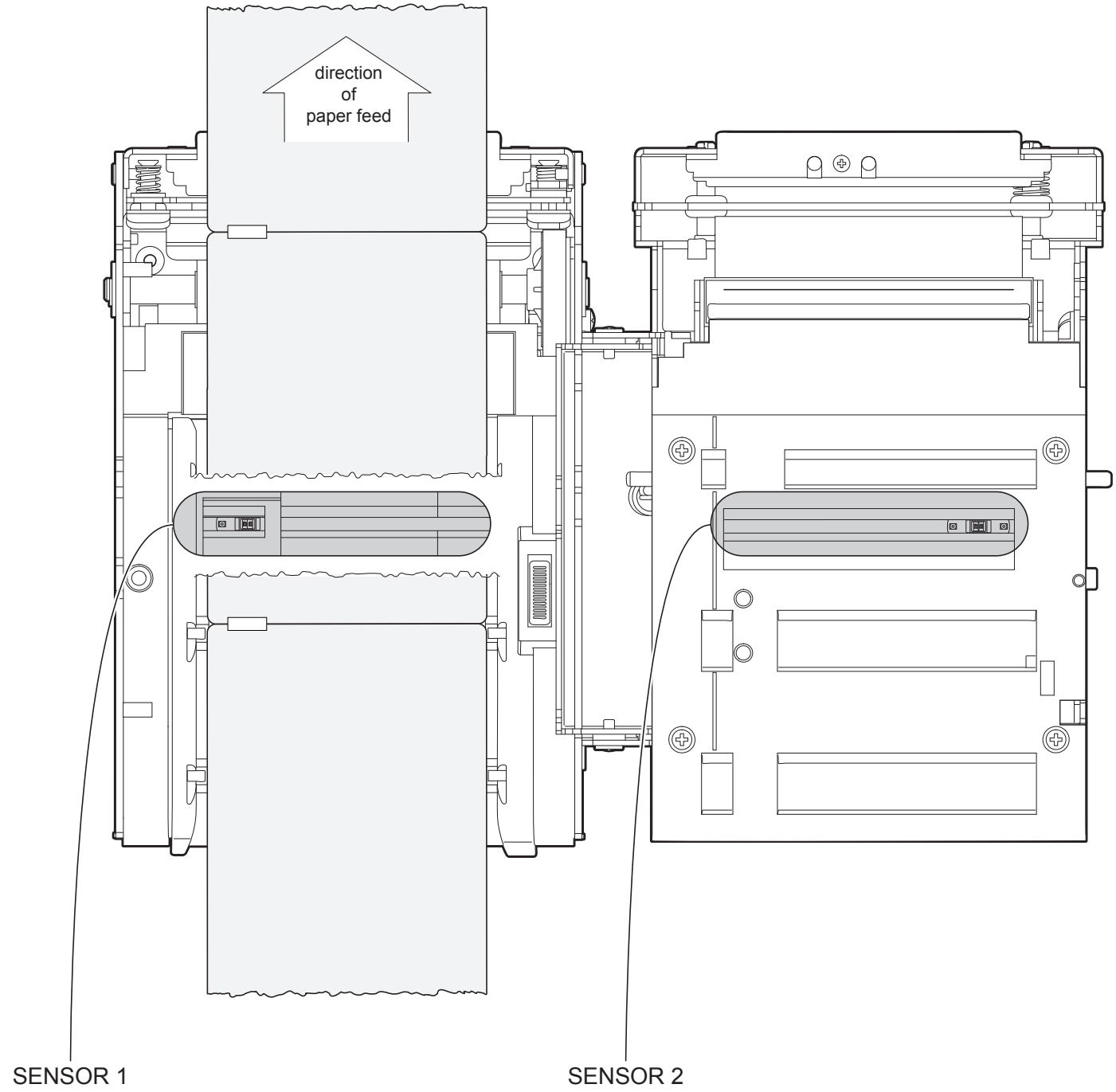
Paper with black mark on the non-thermal side



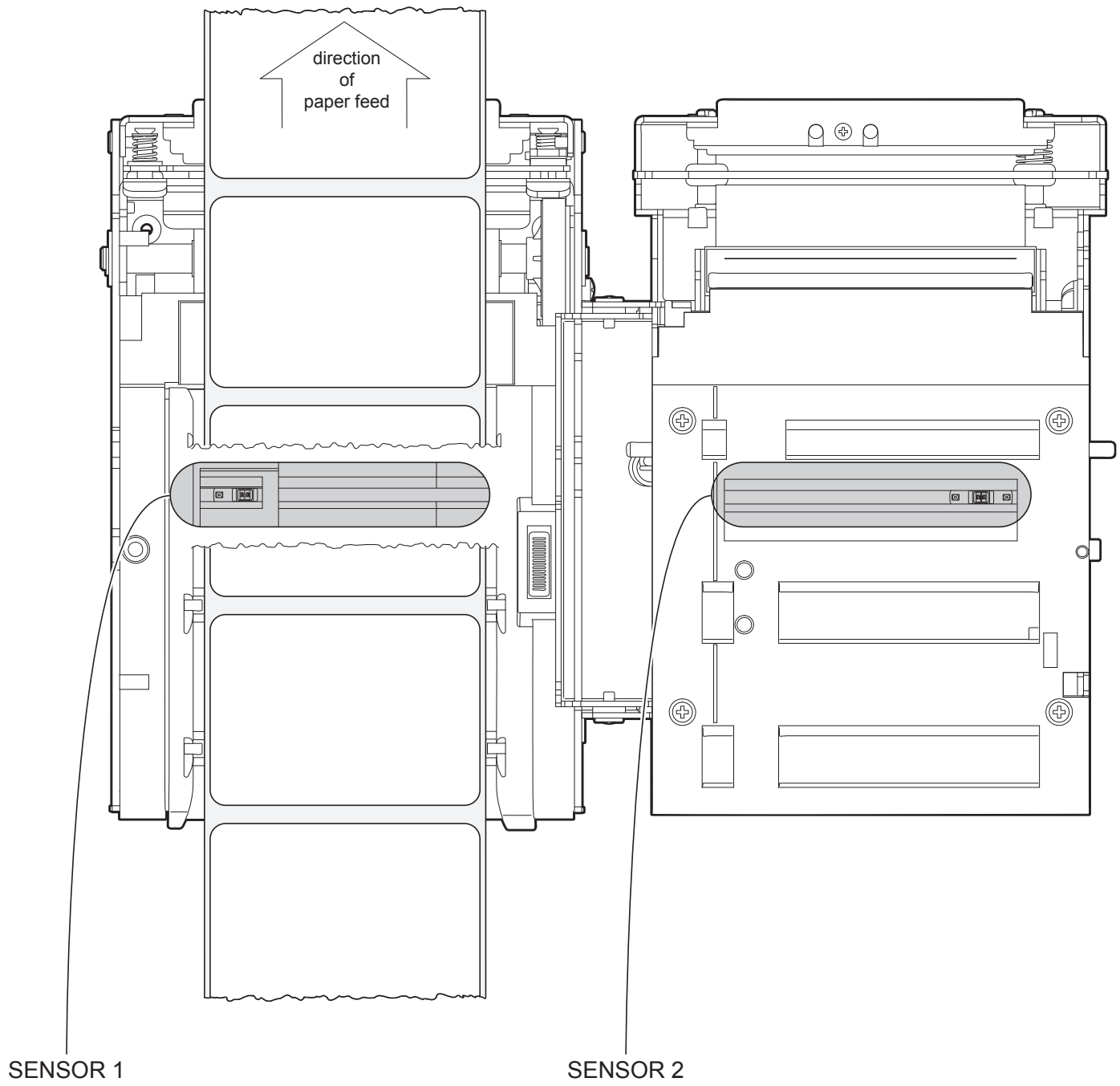
Paper with black mark on the thermal side



Tickets with hole



Paper with labels (for models without triple feeder)



10.2 Calibration

The sensor calibration occurs automatically and consists in adjusting the quantity of light emitted to match the degree of whiteness of the paper used and the degree of black of the mark printed on paper.

The device automatically performs the self-calibration during the Setup procedure only if the “Notch/B.Mark Position” parameter is set to a value other than “Disabled” (see chapter 5).
Otherwise, the self-calibration can be started manually by pressing the S1 key during power-up.

When self-calibration starts, the device performs some paper feeds and then it prints the calibration result and the value of the PWM duty-cicle of the alignment sensor driver so that it can be perform an optimal notch detection:

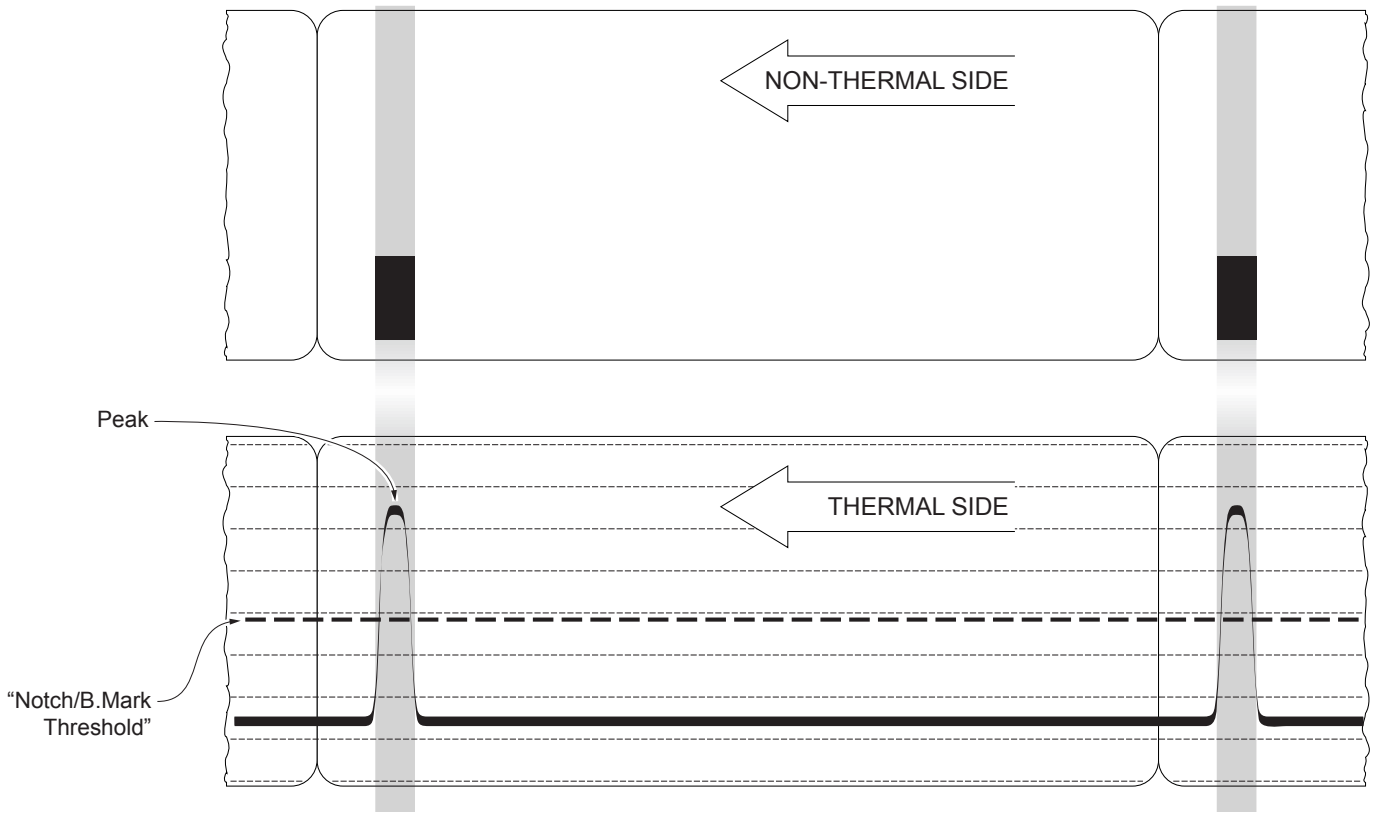
Autosetting Notch : OK
PWM Duty Cycle : 85.3%

The “Autosetting Notch” parameter indicates the result of the self-calibration procedure; OK will appear if it has been successful, NOT OK will appear if the procedure has failed.

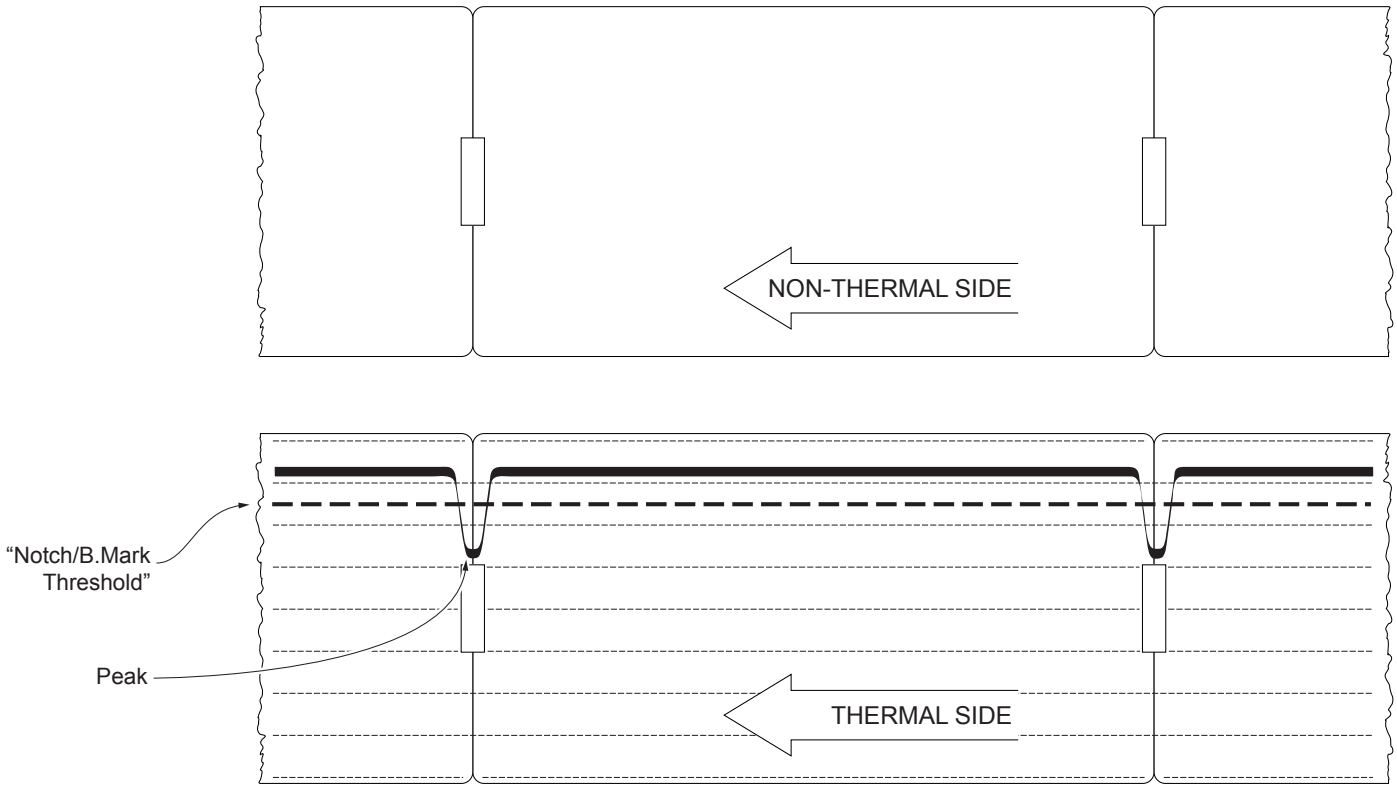
After the printing of the procedure result, the device offers the execution of the function of paper characterization “Characterize Paper” and the change of the “Notch/B.Mark Threshold” parameter which represents the detection threshold of the notch. Choosing the “Yes” value for the “Characterize Paper” parameter, the device prints a graphic representation (see following figures) of the outgoing voltage of the alignment sensor (expressed as a percentage) and the “Notch/B.Mark Threshold” value.

This graphic representation is useful to set the most suitable value to assign to the “Notch/B.Mark Threshold” parameter and then to better identify the optimal threshold value which takes into account the variations of the signal and the small oscillations around zero.

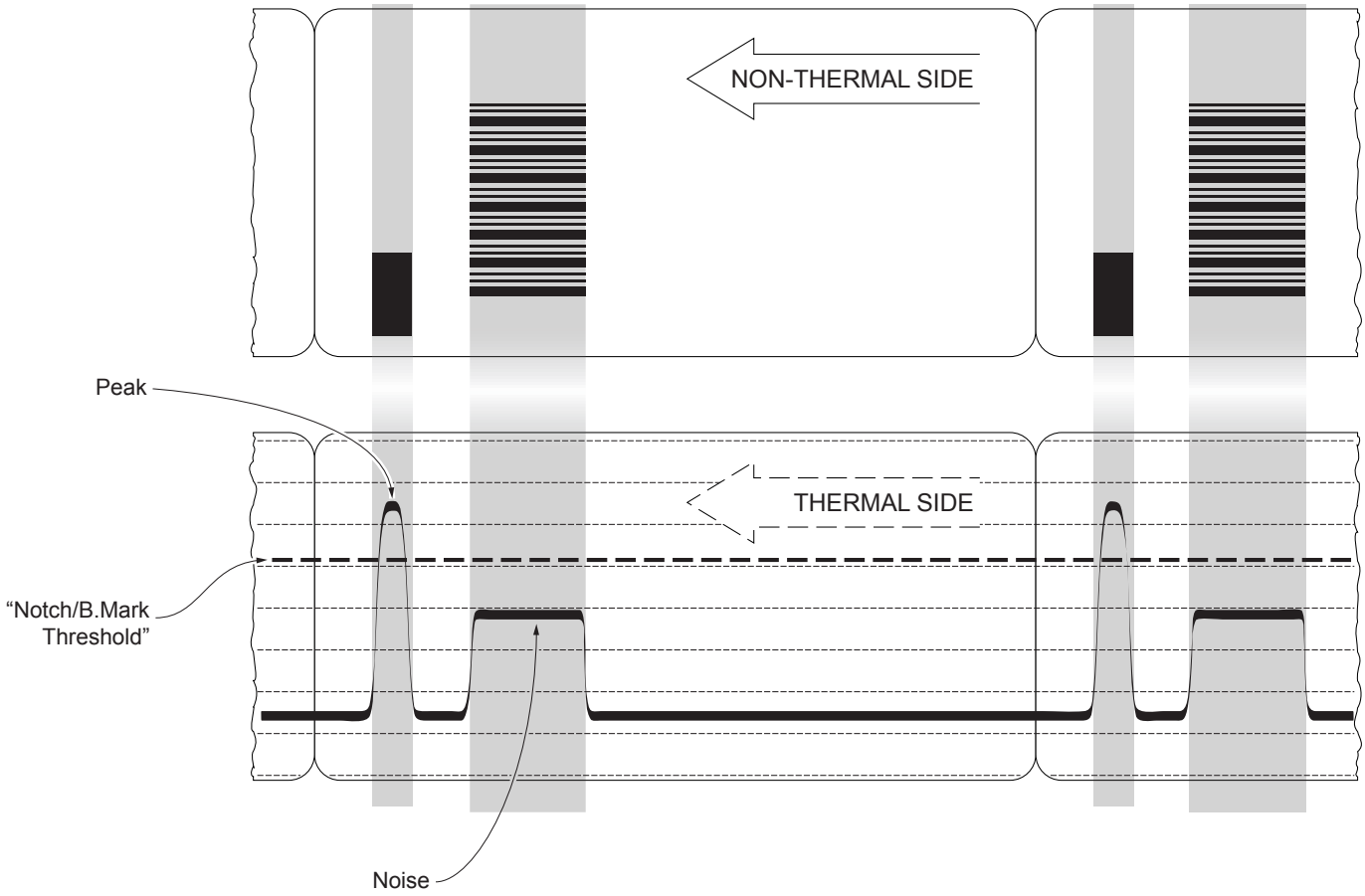
The following figure shows an example of paper with the non-thermal paper printed with black marks: the outgoing voltage is constant while passing the white paper between two notches and presents a peak at each black mark.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is placed about half of the peak (as shown in figure).



The following figure shows an example of paper with holes: the outgoing voltage is constant while passing the paper between two holes and presents a variation at each hole.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is placed about half of the variation.



The following figure shows an example of paper with the non-thermal paper printed with black marks and other graphics (for example, a barcode): the outgoing voltage is constant while passing the white paper between two notches, presents a peak at each black mark and presents some “noise” at each barcode.
In this case, the optimal value for the “Notch/B.Mark Threshold” parameter is located about halfway between the peak value and the maximum value of the “noise” (as shown in figure):



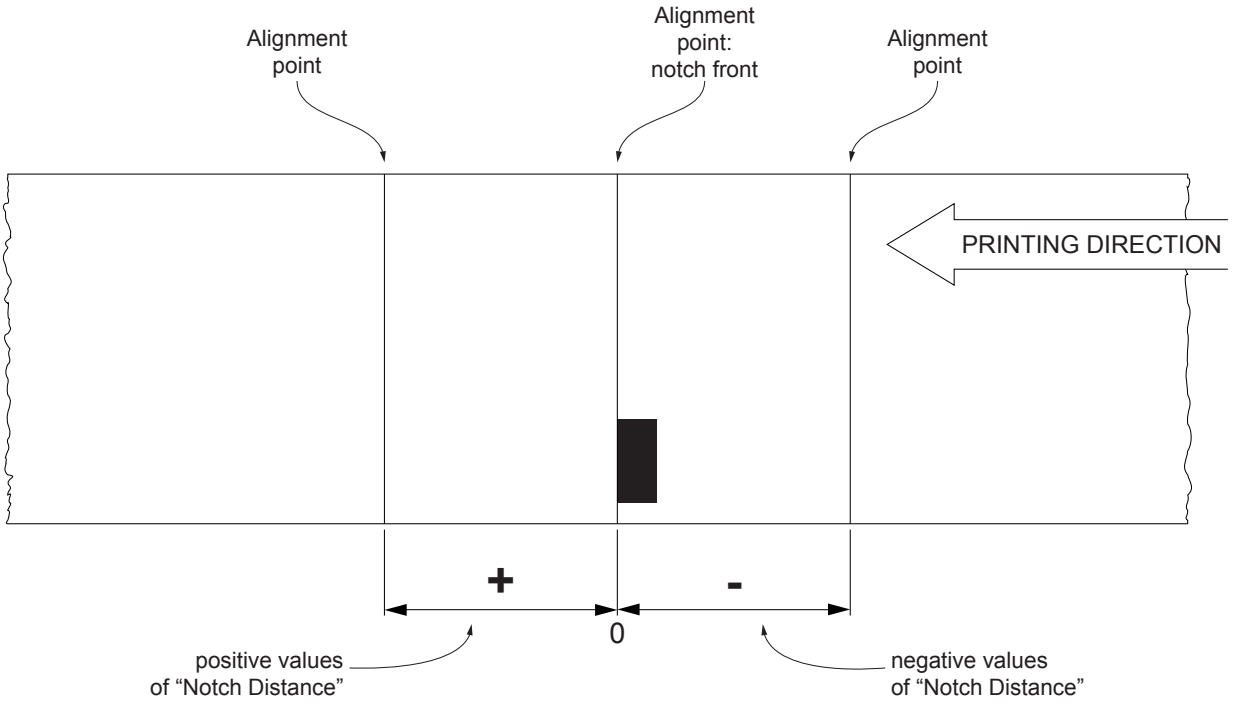
If the maximum value of “noise” read by the sensor is very close to the peak value, it might be difficult to place the value of the “Notch/B.Mark Threshold” at an intermediate point. In these cases, it is mandatory that the portion of paper between the point of printing end and the front notch is completely white (no graphics). In this way, the only next graphic detected by the sensor for alignment after the printing end will be the notch.

10.3 Alignment parameters

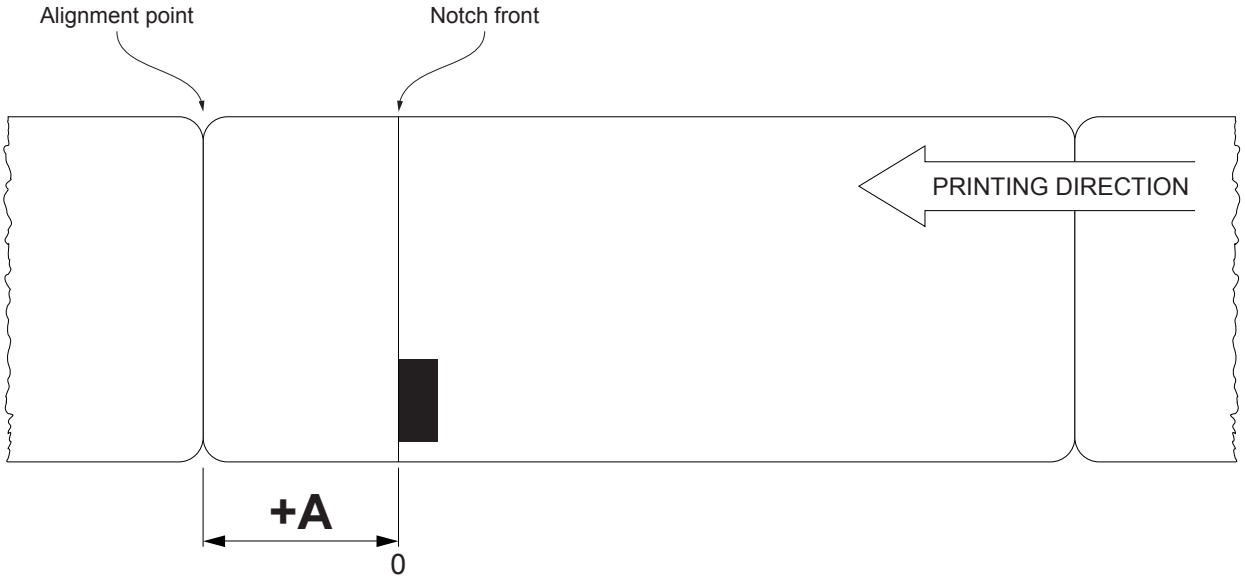
The “alignment point” is defined as the position inside the ticket to use for the notch alignment.
The distance between the notch edge and the alignment point is defined as “Notch Distance”.

The value of “Notch Distance” varies from a minimum value of -5 mm to a maximum value of 66 mm.

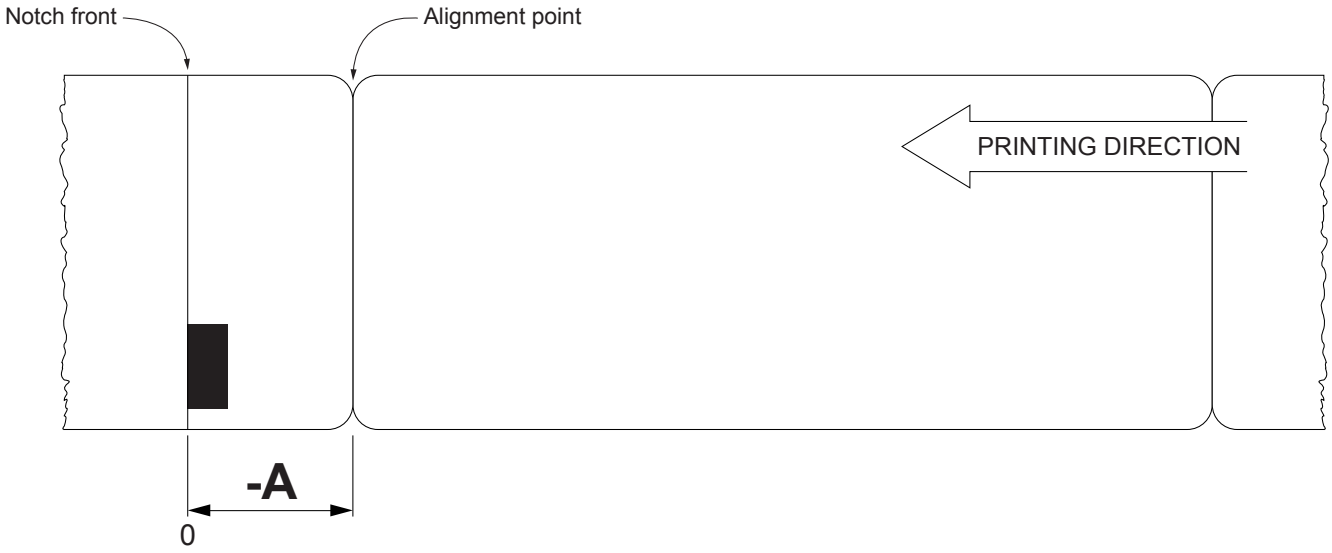
If the “Notch Distance” value is set to 0, the alignment point is set at the beginning of the notch:

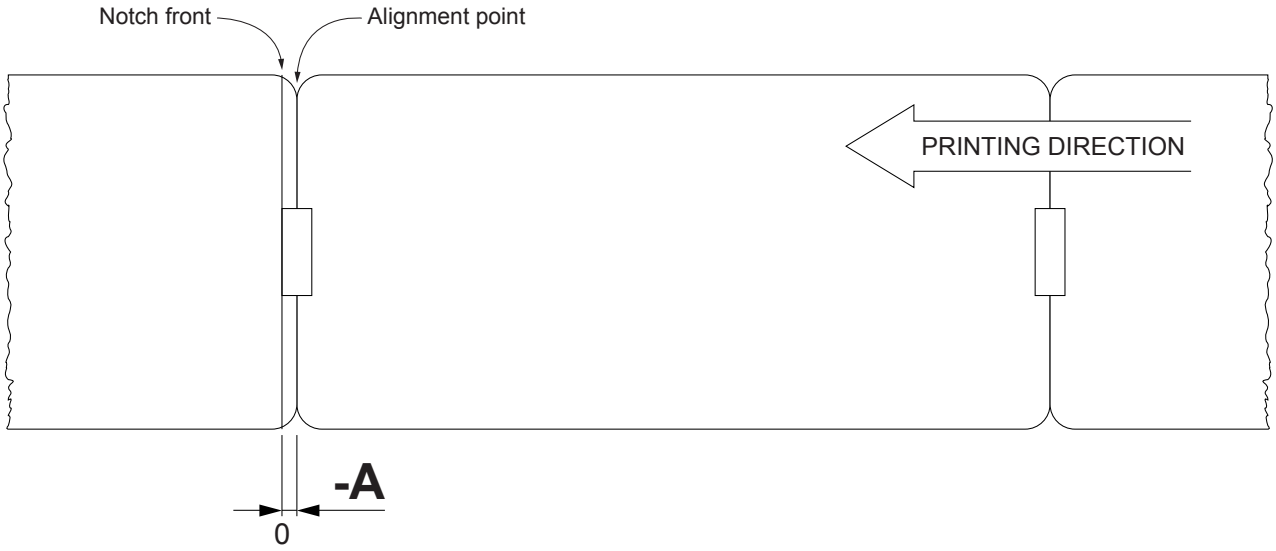


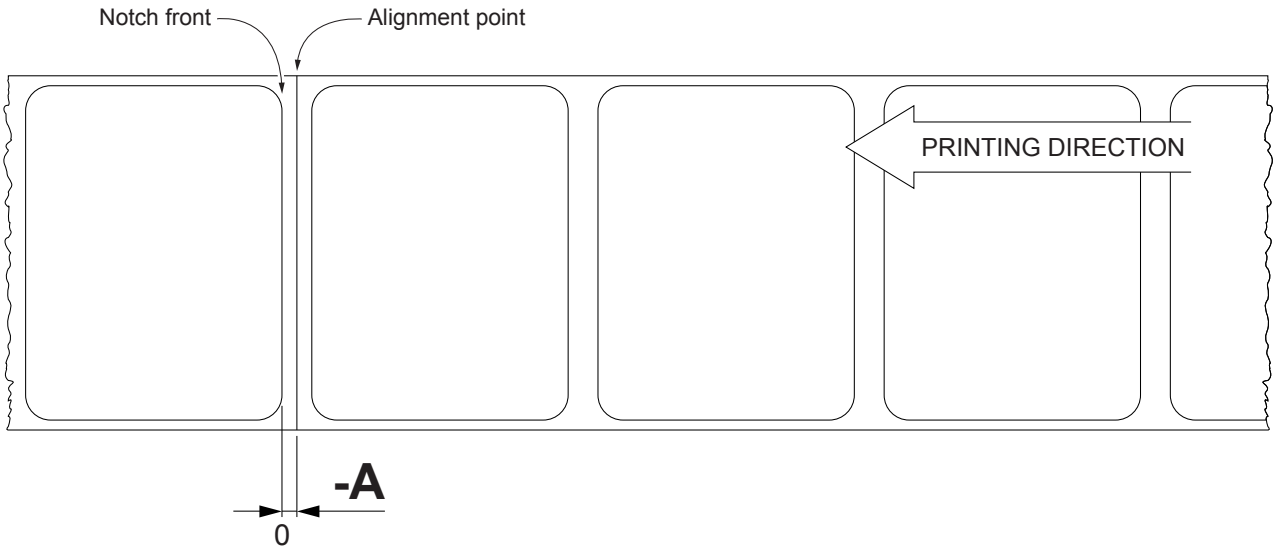
The following figure shows an example of paper with alignment point set by a positive value of “Notch Distance” (“Notch Distance” = + A):



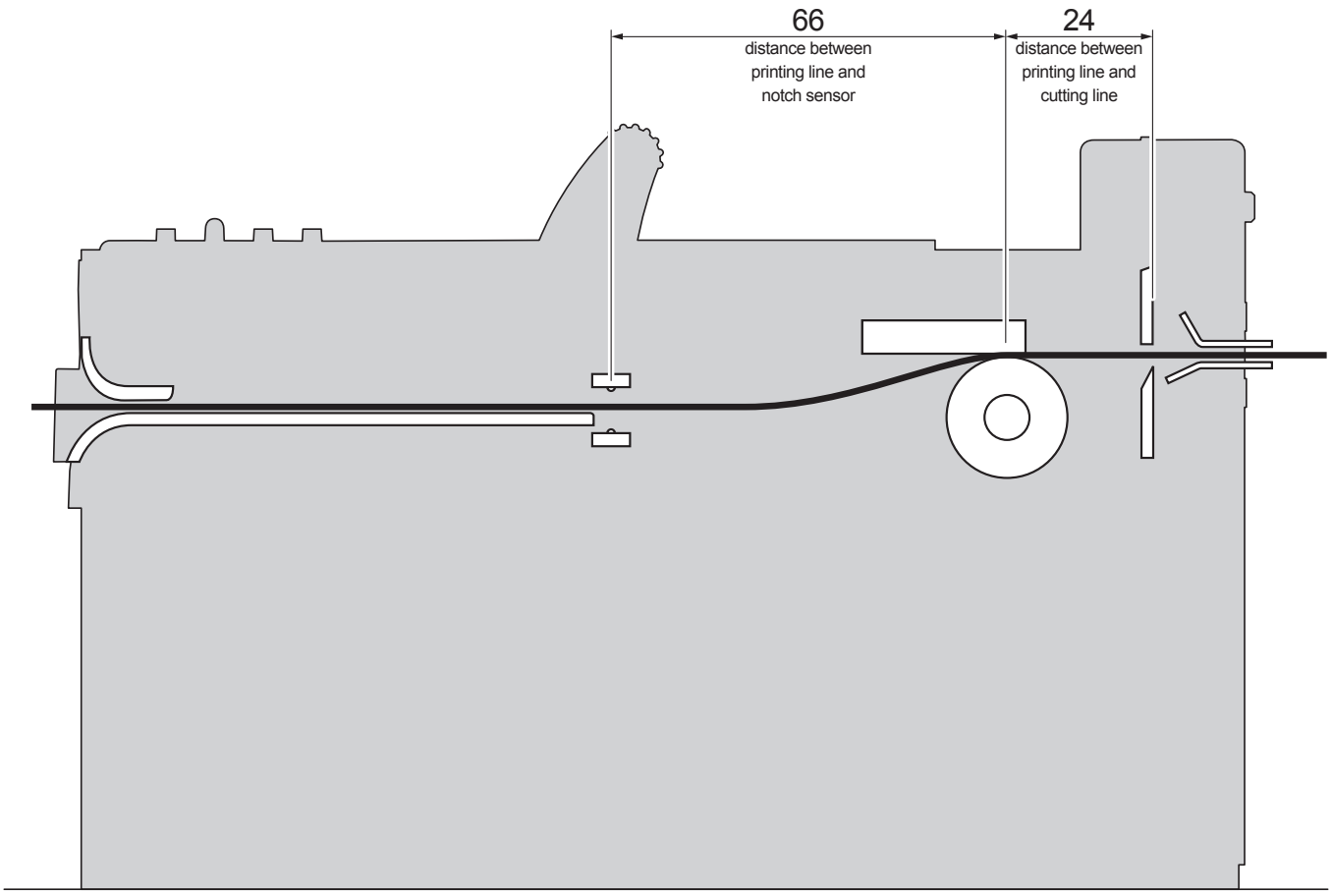
To set a negative value of the “Notch Distance” parameter is useful in cases where the alignment point refers to the notch printed on the previous ticket or where the desired cutting line is placed in the middle of the alignment notch (for example, for paper with holes or gap). In the following images, the value of “Notch Distance” parameter is set to -A.







The following figure shows a simplified section of the device with the paper path and the distances (in mm) between the alignment sensors, the printing head and the cutter (cutting line).



CUSTOM/POS emulation

To define the alignment point you need to set the printer parameters that compose the numerical value of the “Notch Distance” parameter (see par.5.4).
For example, to set a notch distance of 15mm between the notch and the alignment point, the parameters must be set on the following values:

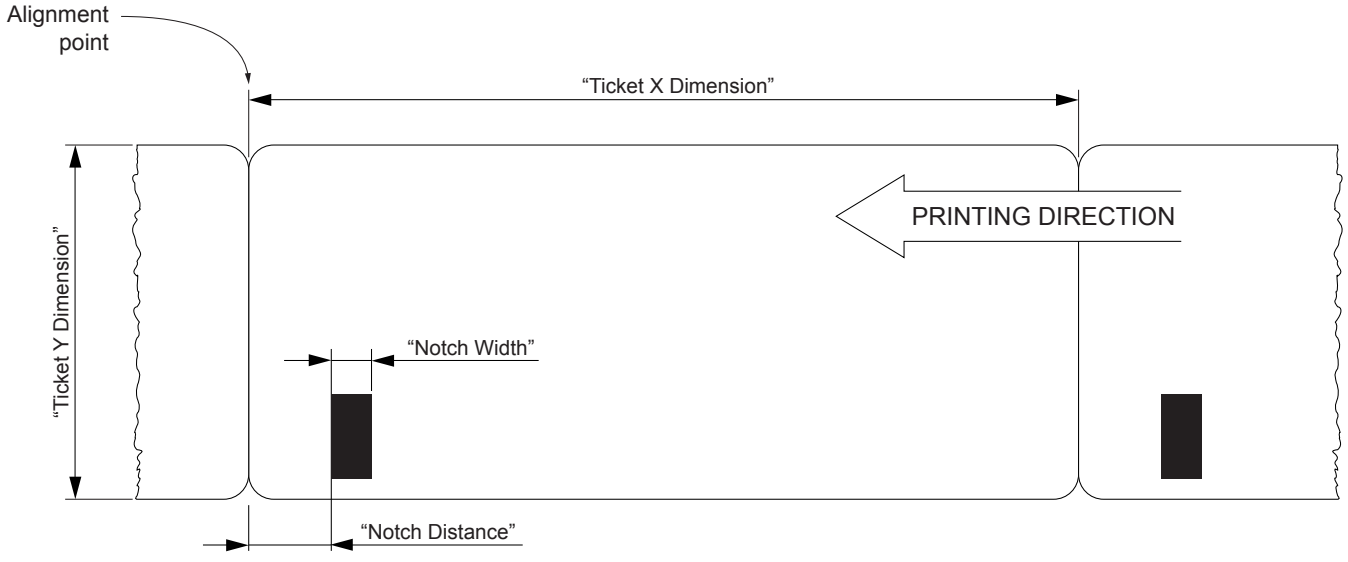
Notch Distance Sign : +
Notch Distance [mm x 10] : 1
Notch Distance [mm x 1] : 5
Notch Distance [mm x .1] : 0

The “Notch Distance” parameter, may be modified as follows:
- during the Setup procedure of the device (see chapter 5)
- by modifying the Setup.ini file (see par.12.9)
- by using the command 0x1D 0xE7 (for more details, refer to the Commands Manual)
- by driver.

SVELTA emulation

The ticket features and the alignment parameters, may be modified as follows:
- by using the parameters of the <LHT> command (for more details, refer to the Commands Manual)
- by modifying the Setup.ini file (see par.12.9)
- by driver

The following figure shows the some of parameters for alignment of the Setup.ini file:
- “Ticket X Dimension”
- “Ticket Y Dimension”
- “Notch Width”
- “Notch Distance”

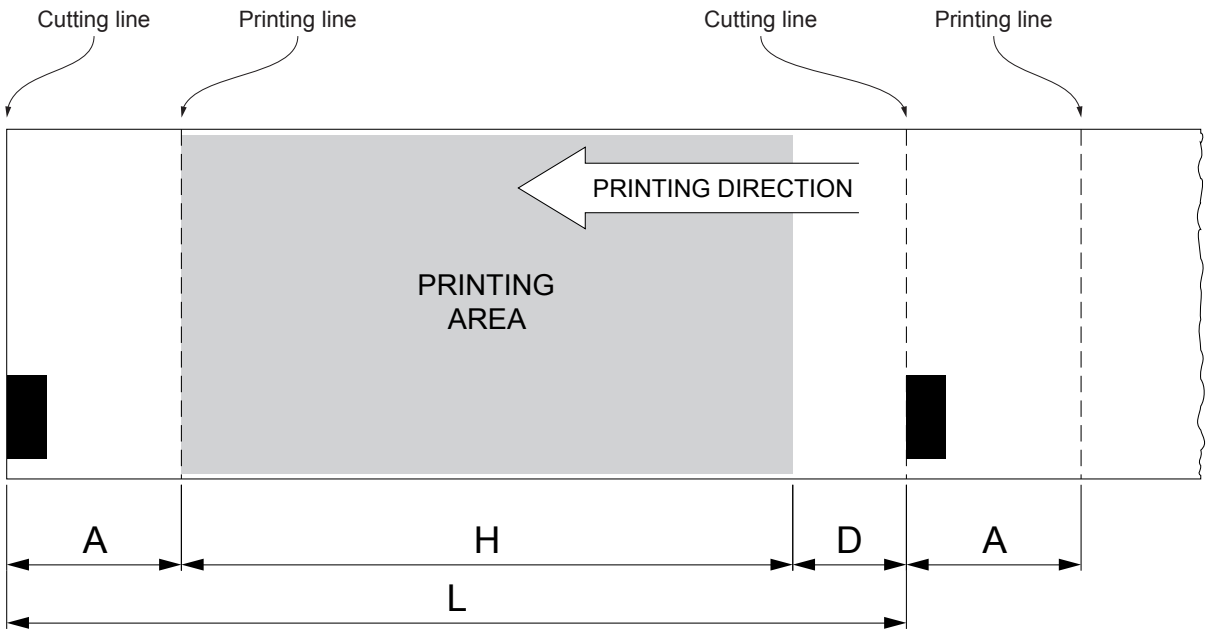


10.4 Printing area

In order to print ticket containing only one notch and to not overlay printing to a notch (that will make it useless for the next alignment), it is important to well calibrate:

- the length of the printing area of ticket according to the inter-notch distance;
- the value for the paper recovery after a cut.

The following figure shows an example of tickets with “Notch Distance” set to 0:



A “Non-printable area” generated from:

“***Distance between cutter/printing head”- “Value for the paper recovery after a cut***”

where:

”Distance between cutter/printing head” =	24 mm (fixed distance)
“Value for the paper recovery after a cut”=	9 mm (in CUSTOM/POS emulation)
	24 mm (in SVELTA emulation)

In CUSTOM/POS emulation, after a performed cut, the paper is not completely recovered (in order to avoid jamming when using of thin paper). Otherwise, in this emulation you can use the command 0x1C 0xC1 to modify the “Value for the paper recovery after a cut” (see Commands Manual).
The SVELTA emulation, instead, it is designed specifically for ticketing and then for using with heavy paper, which avoids the risk of paper jams. After performing a cut, the device completely recovers the paper

H Distance between the first and the last print line, called “Hieght of the printing area”.

L Distance between an edge of the notch and the next one, called “Inter-notch distance”.

D Automatic feed for alignment at the next notch.

To use all the notches on paper, you must comply with the following equation:

$H + A \leq L$

The height of the printing area (H) can be increased to make no progress on alignment (D) but no further.

11 TECHNICAL SERVICE

In case of failure, contact the Technical Service by sending an e-mail to support@custom.it detailing:

1. Product code
2. Serial number
3. Hardware release
4. Firmware release

To get the necessary data, proceed as follows:

1

Write down the data printed
on the product label (see paragraph 2.5).

2

FW

KPM302 printer

SCODE: <*code*>	**-**	**rel**	**1.00**
BCODE: <*code*>	-	rel	1.00
FCODE: <*code*>	-	rel	1.00
UCODE: <*code*>	-	rel	1.00
DCODE: <*code*>	-	rel	1.00
CPLD	-	rel	1.00

PRINTER SETTINGS

PRINTER TYPE	KPM302
Barcode Reader	Not Present
RFID module	Not Present
PRINTING HEAD TYPE	KPA80
INTERFACE	RS232
ETHERNET TYPE	10Base-T
PROGRAM MEMORY TEST	OK
DYNAMIC RAM TEST	OK
EEPROM TEST	OK
CUTTER TEST	OK
PRINTER HEAD Rav	561
HEAD VOLTAGE [V] =	24.55

Print a Setup report (see paragraph 5.1)
The Setup report shows
the firmware release.

3

support@custom.it
Customer Service Department

Send an e-mail to the Technical Service,
with the data collected.

12 ADVANCED FUNCTIONS

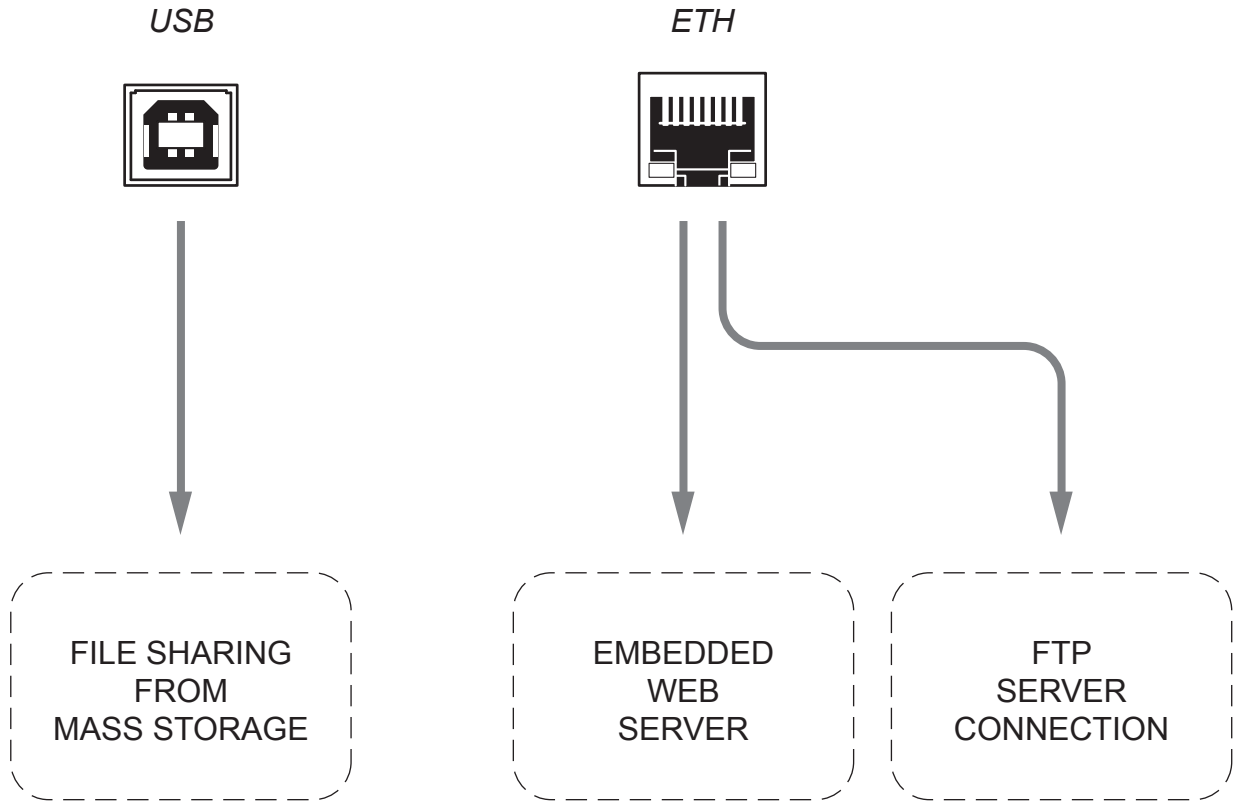
12.1 File sharing

The device can be connected to a PC through two types of connections (see par.3.5):

1. with USB cable
2. with Ethernet cable.

According to the connection made, it is possible to manage drivers, fonts and logos of the device and configure the operating parameters in three different ways

1. by files sharing from Mass Storage, in case of USB connection
2. by files sharing from FTP Server connection, in case of Ethernet connection
3. by entering the Embedded Web Server, in case of Ethernet connection.



12.2 Embedded Web Server

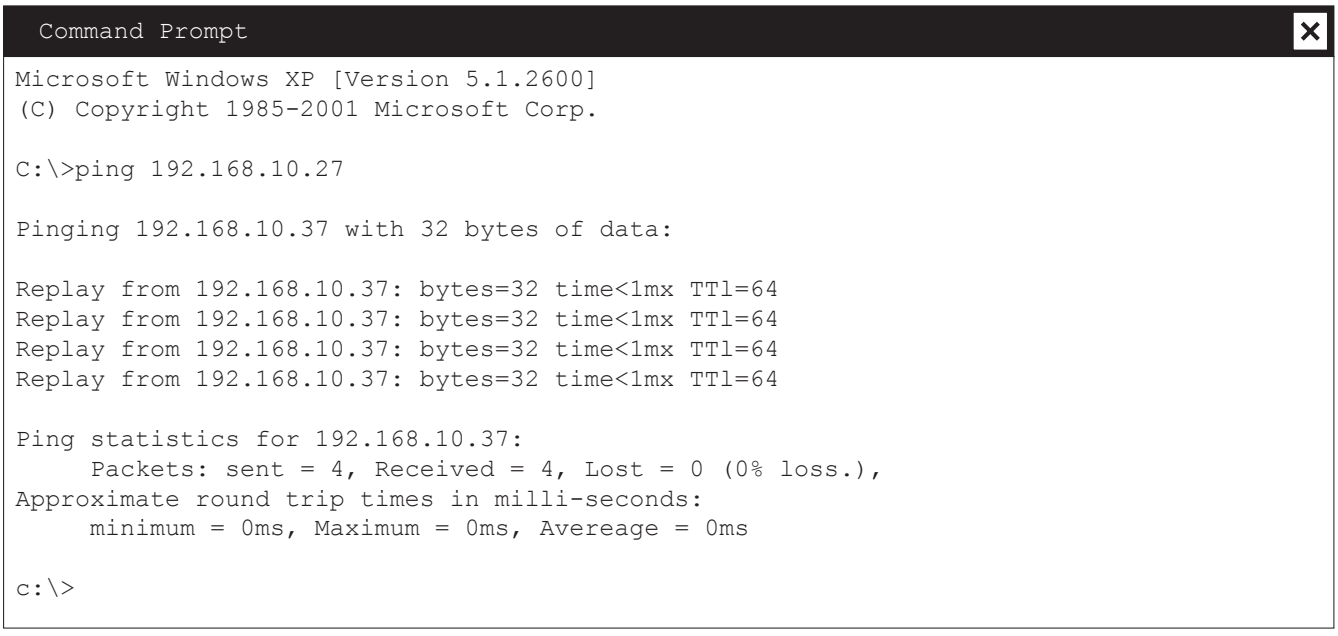
The device is equipped with an Embedded Web Server that allows to execute some operations on devices, through a clear web interface, including:

- monitoring the printer status;
- setting operating parameters;
- configuring network settings;
- managing the logos;
- configuring the email service to make diagnostics and maintenance operations easier;
- download printing drivers.

Before entering in the Embedded Web Server, check that:

- the device is connected and turned on;
- the device has a network connection based on the IP protocol;
- the following ports are opened (if a Firewall is present on computer): 9100 (or differently set up). 15000, 15001, 15002;
- have a Web browser on the computer;
- the device is connected to the network and its IP address and its Subnet Mask are set up in a correct way. To check the setting of these parameters, open a new terminal window and type “ping” on the command bar followed by the IP address of the device. The picture shows an example of a positive result after the “ping” command. Otherwise, if connection isn’t possible, to its IP address, a failure notice will appear.

Example: ping 192. 168. 10. 37



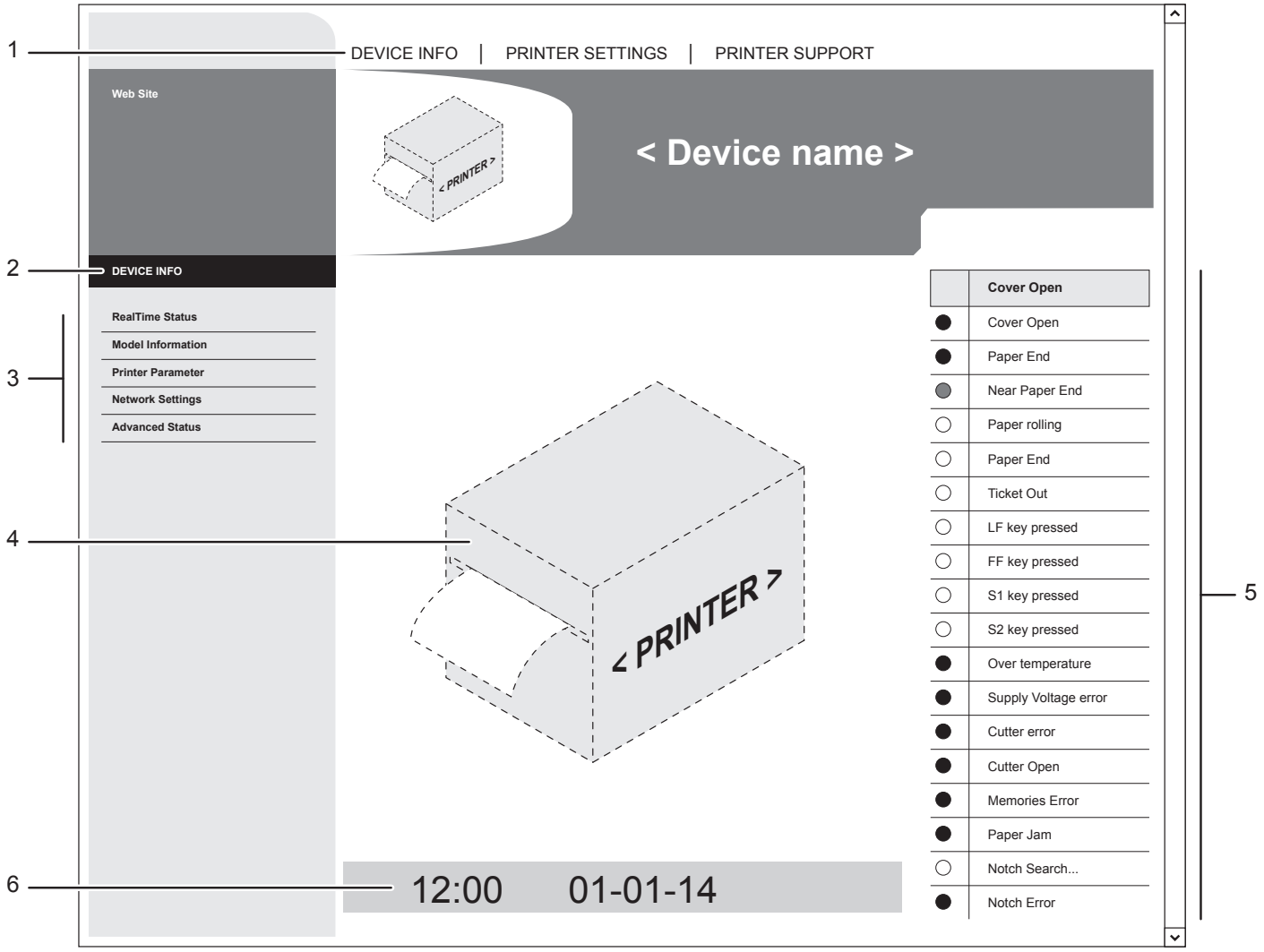
12.3 Embedded Web Server : access

To enter the Embedded Web Server, type the IP address assigned to the device into Web browser. To know the IP address of the device, print the Set-up report of the device (see chapter 5) or use the software LOCATOR. For example, if IP address of the device is 192.168.10.37, type in the Web browser:

http://192.168.10.37

On the screen will appear the internal default page that corresponds to the section “Device Info” The home page is divided into 6 areas whose functions are described below:

1.	**SECTIONS:**	The web server has three sections listed within each web page. These sections are: Device Info, Printer Settings, Printer Support.
2.	**CURRENT PAGE**	Reports section currently displayed.
3.	**TOOLS**	Lists the tools available within the chosen section.
4.	**PRINTER PICTURE**	Displays a picture representative of the device operational status. The picture changes depending on the parameters reported in area number 5.
5.	**REAL TIME STATUS**	Report a list of operating parameters controlled and monitored in real time (with a regular refresh from 5 to 15sec).
6.	**TIME AND DATE**	Displays the current time and date.



To enter some sections and some configuration services, it is required the identification of the user and password. To make registration and to obtain the access to the restricted areas, when it is required insert the user name and the password as indicated in the following table:

User Name	**Custom**
Password	**AlwaysOn**

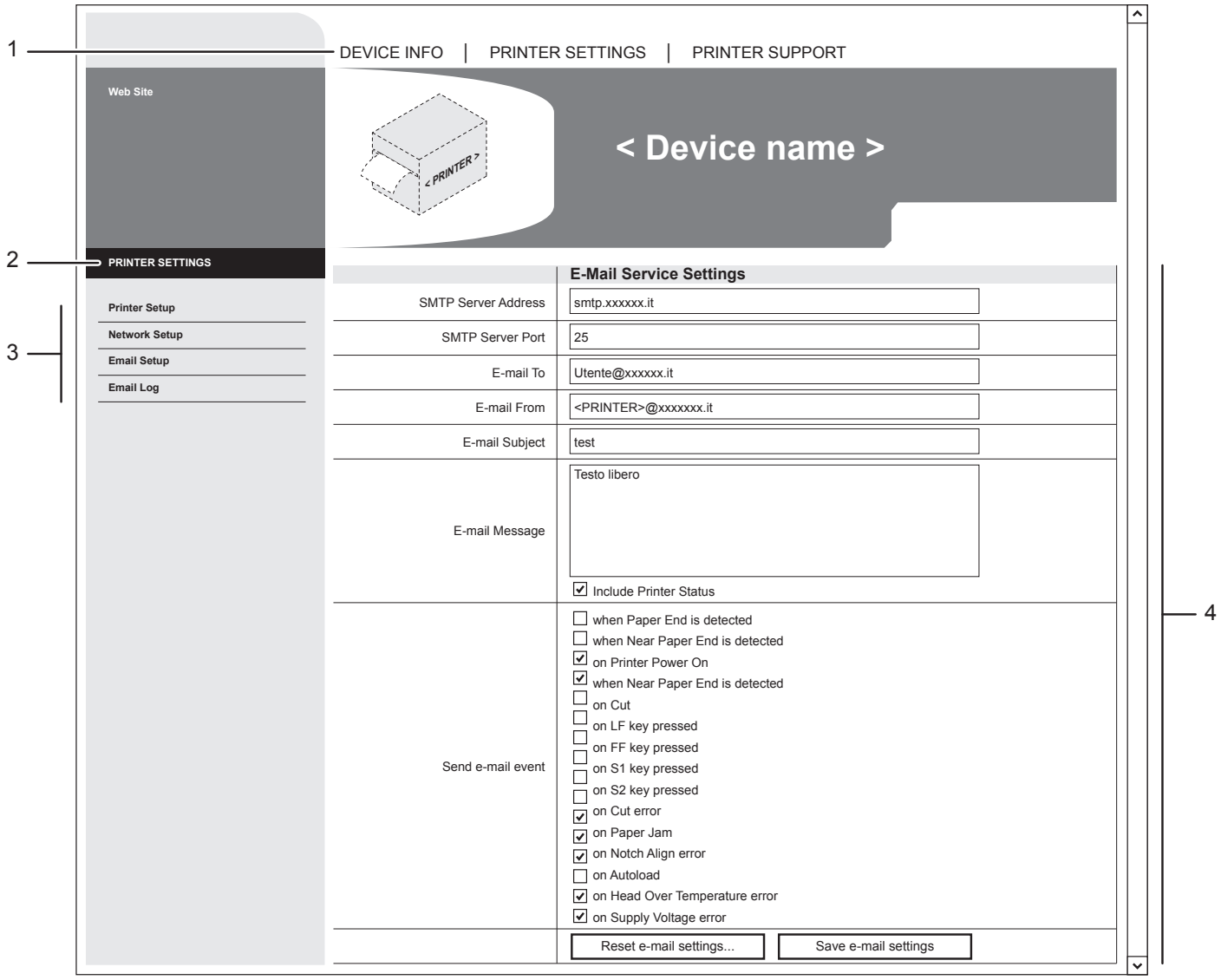
NOTE:
Respect capital and small letters as indicated in table.

12.4 Embedded Web Server: functions

The “Printer Settings” section is a restricted one. To enter the section, it is required the identification of the user and password. With the tools of this section, it is possible to set up the same parameters of the device that are configurable in the Setup mode (see chapter 5).

The following figure shows the page for the “EMAIL SETUP” tool. It is divided into 4 areas:

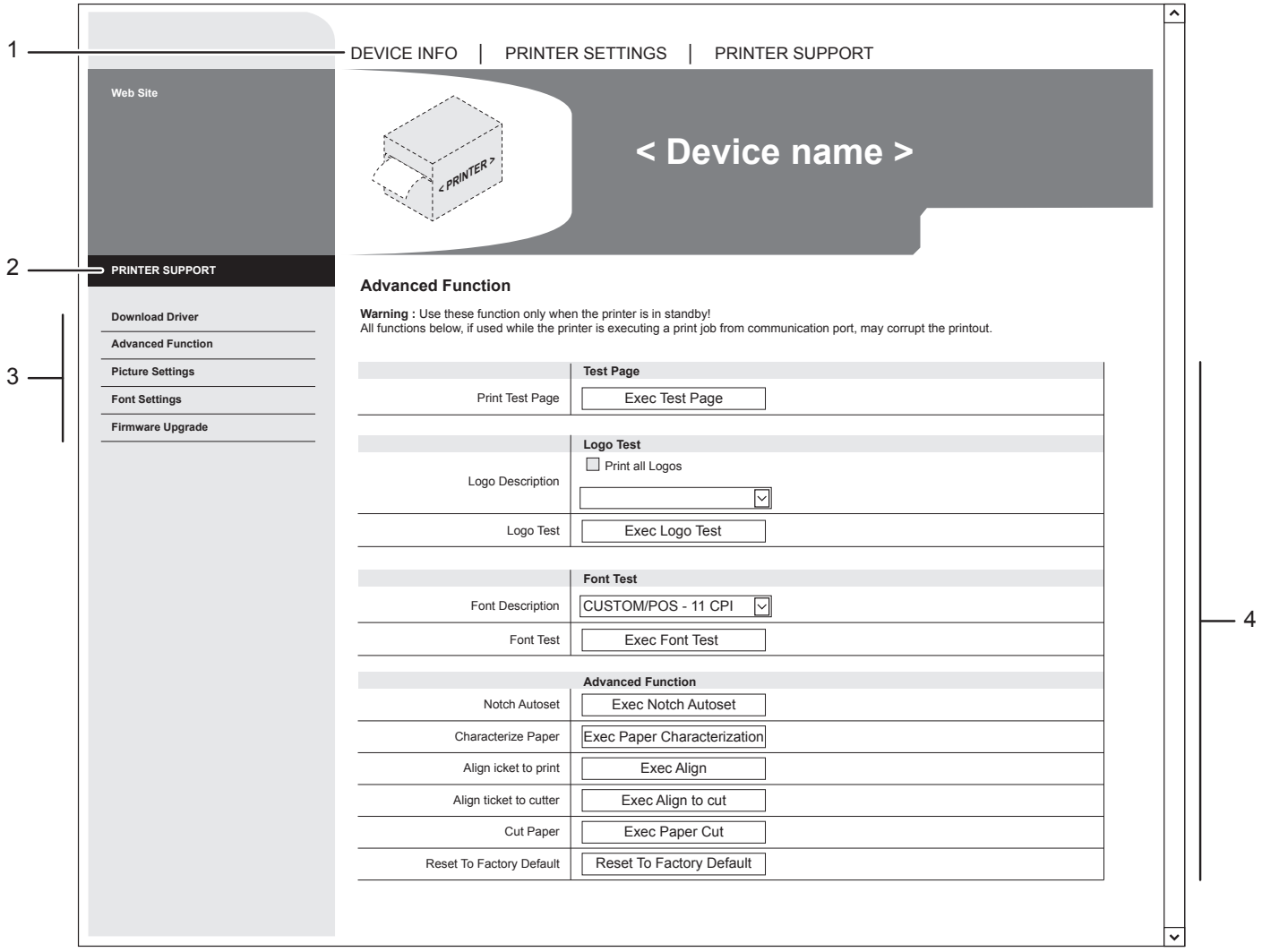
1. **SECTIONS:** The web server has three sections listed within each web page. These sections are: Device Info, Printer Settings, Printer Support.
2. **CURRENT PAGE** Reports section currently displayed.
3. **TOOLS** Lists the tools available within the chosen section.
4. **EMAIL SETUP** Displays the fields available to configure the automatically delivery of service email in order to inform the user when a change occurs to operating status of the device. It is possible to select the events to enable the sending of the email



With the tools in the “Printer Support” section, it is possible to download drivers, manage logos and test some device functions for demonstrative and service purpose.

The following figure shows the page for the “ADVANCED FUNCTIONS” tool. It is divided into 4 areas:

1. **SECTIONS:** The web server has three sections listed within each web page. These sections are: Device Info, Printer Settings, Printer Support.
2. **CURRENT PAGE** Reports section currently displayed.
3. **TOOLS** Lists the tools available within the chosen section.
4. **ADVANCED FUNCTION** Displays all the tests available for the device: printing a test page, the font test and the logos test, the self-calibration of the notch sensors and the ticket alignment.

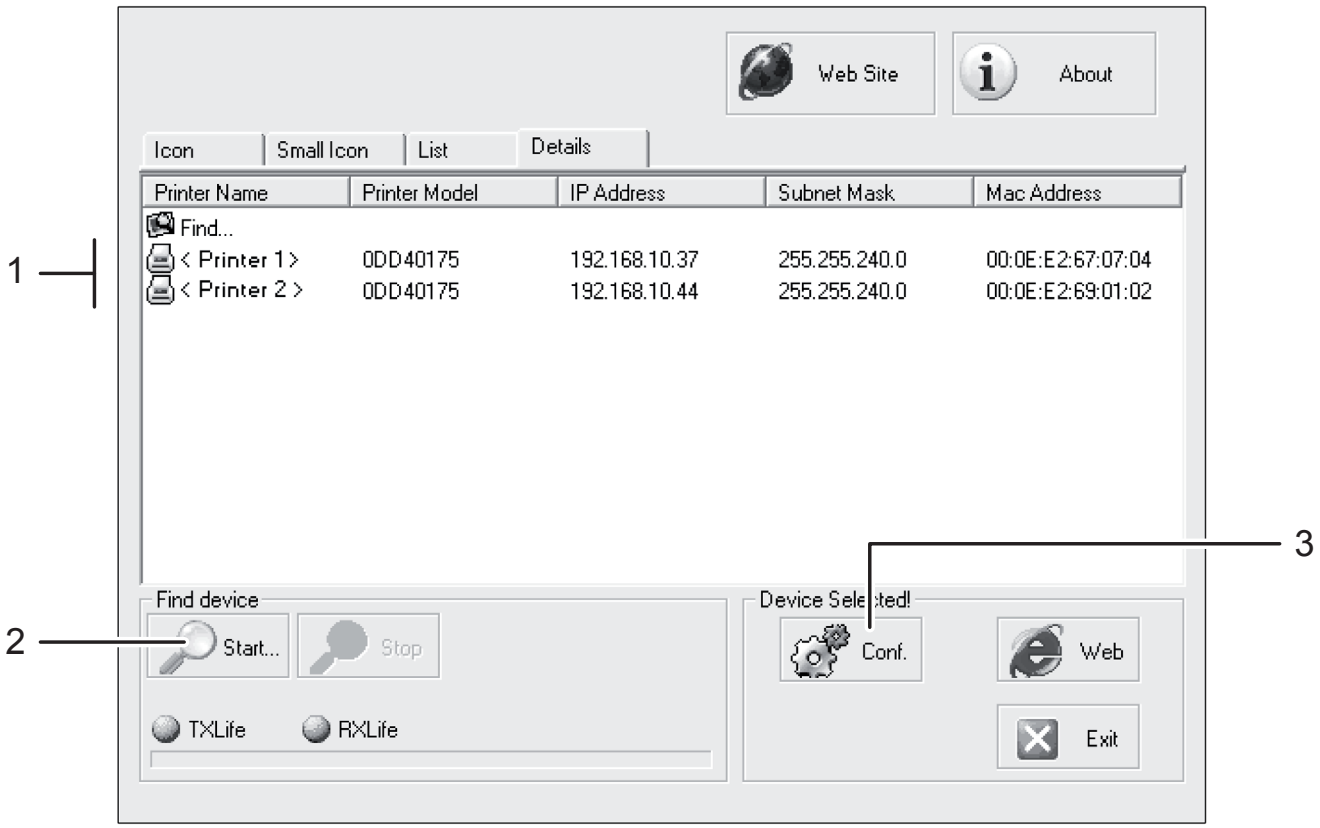


12.5 Locator

With the devices it is possible to use an external software to perform a search for devices connected to the network with Ethernet cable, even without knowing the IP addresses of individual devices.

The following figure shows the software interface:

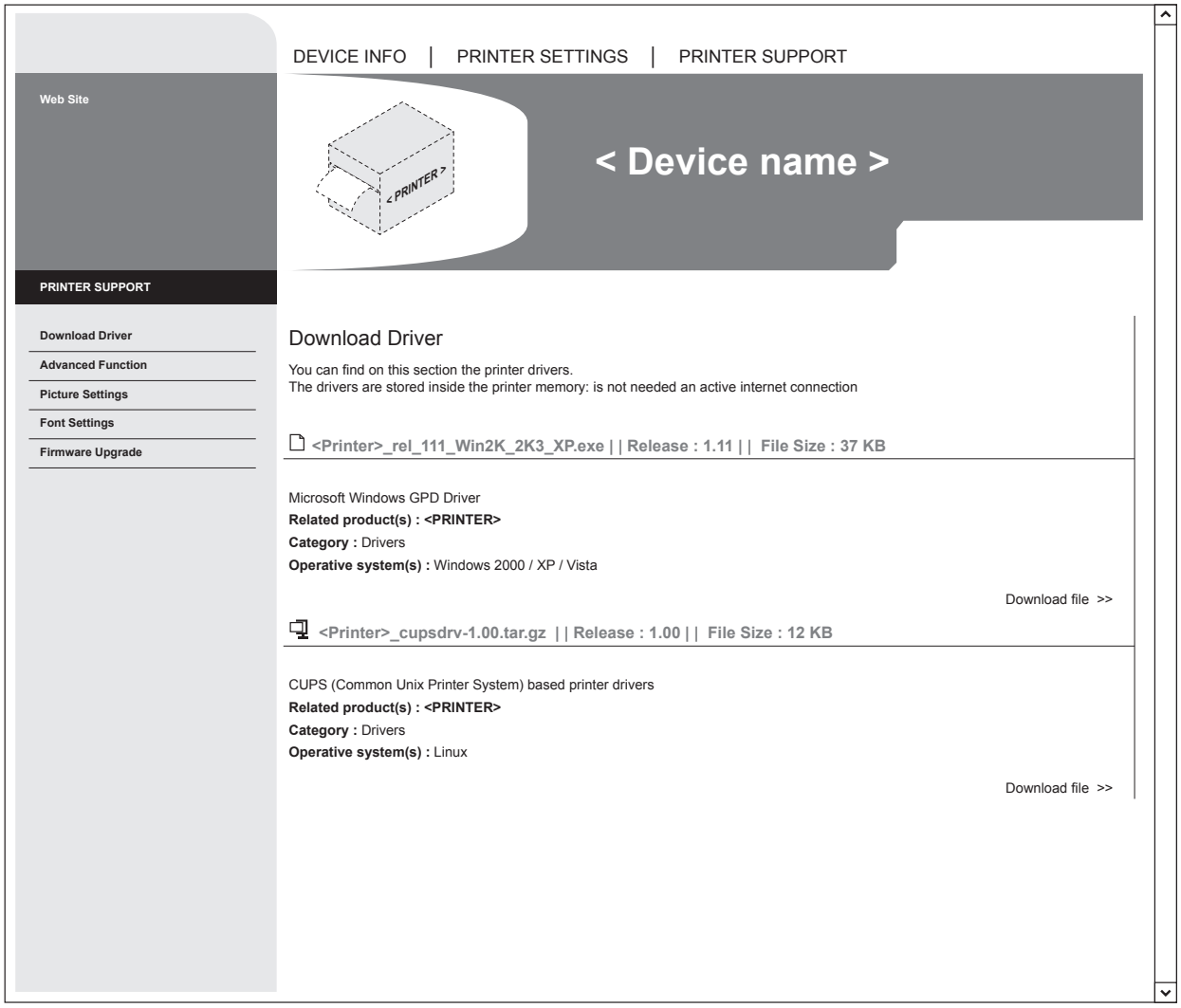
1. **DEVICES:** Displays the list of the connected devices.
2. **“START...”** Stars a new search.
3. **“CONF.”** Enters the configuration window of the network parameters of the selected devices.



12.6 Drivers installation

Embedded Web Server

To install a new driver update for the device, enter the “DRIVER” page of the “PRINTER SUPPORT” section of the embedded Web Server (see the following figure).



Mass Storage / FTP Server

It is possible to install the new driver update directly into the folder “DRIVER” on the Flash Drive of the device.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par.12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

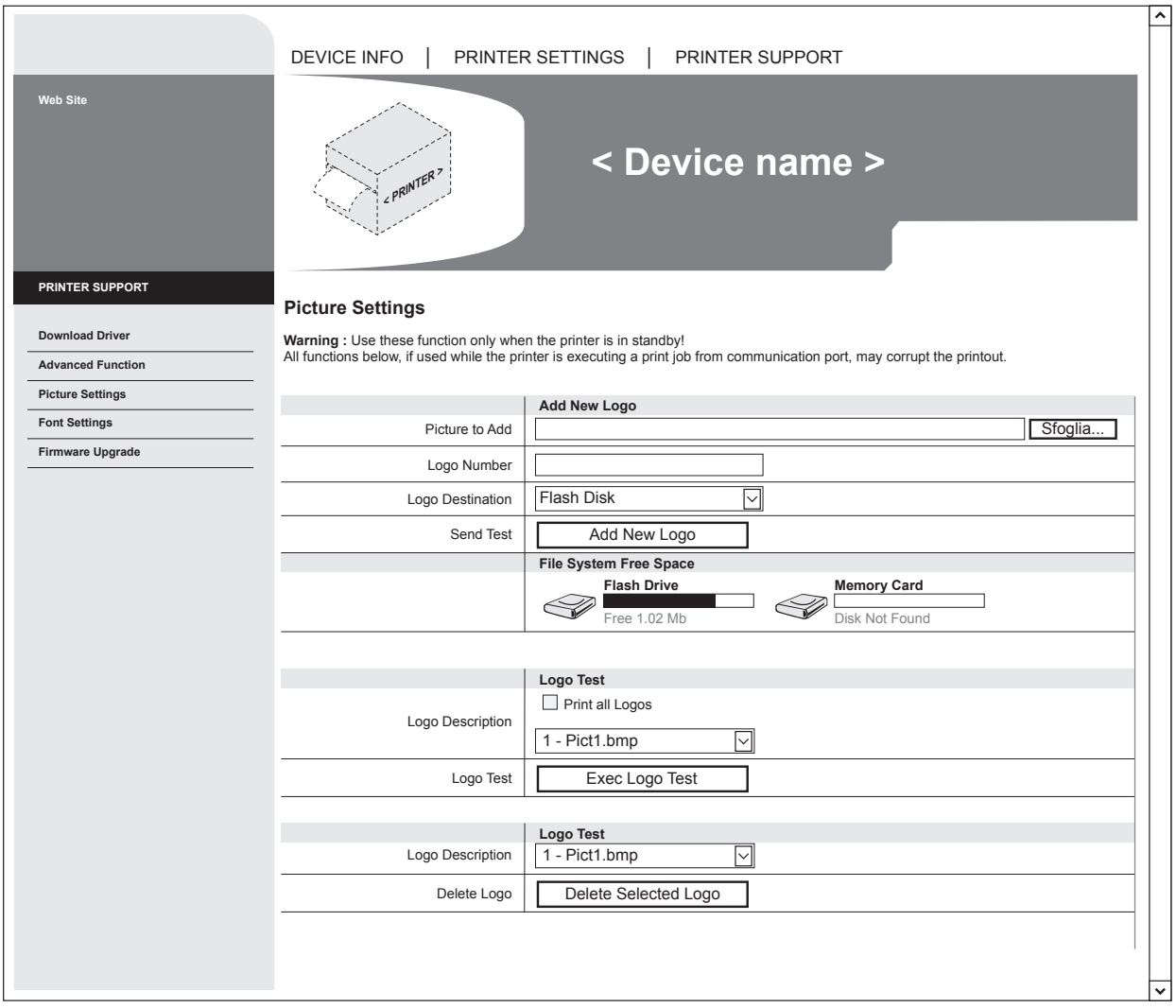
NOTE: To know the IP address of the device, print the Setup report of the device (see chapter 5) or use software LOCATOR. Type in the address bar “ftp://” followed by the IP address of the device.

12.7 Logos management

It is possible to store new logos in addition to default logos stored on Flash Disk. The device automatically provides to convert BMP image to the error-diffusion format in black and white.
Logos may be stored both on Flash Disk and on the SD/MMC card.
The use of the SD/MMC card allows to handle more logos (however, the max number of manageable logos is limited by the RAM memory reserved for logos management).

Embedded Web Server

To add a new logo to the device enter the “PICTURE SETTINGS” page of the “PRINTER SUPPORT” section of the embedded Web Server (see the following figure).



Mass Storage / Server FTP

It is possible to add the new logo directly into the folder “PICTURES” on the Flash Drive of the device.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par. 12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

After adding the logo, open the configuration file “PictList.ini” and add a new line with a number associated to the logo (to be used with device’s commands), a letter for the memory unit and the logo file name, as indicated in the instructions written inside the “PictList.ini” file.

To delete a logo stored in the device, proceed as follows:
1. delete the selected logo from the “Pictures” folder on Flash Disk or SD/MMC card;
2. in the configuration file “PictList.ini”, delete the line related to the erased logo.

The logos stored into the Flash Drive or the SD/MMC card and converted by the device, can be printed by using the number associated to the logo during the conversion step.
The correspondence between file-name and logo-number is warrant by the configuration file “PIctList.ini” and it is verifiable with the logo test.

NOTE: To know the IP address of the device, print the Setup report of the device (see chapter 5) or use software LOCATOR. Type in the address bar “ftp://” followed by the IP address of the device.

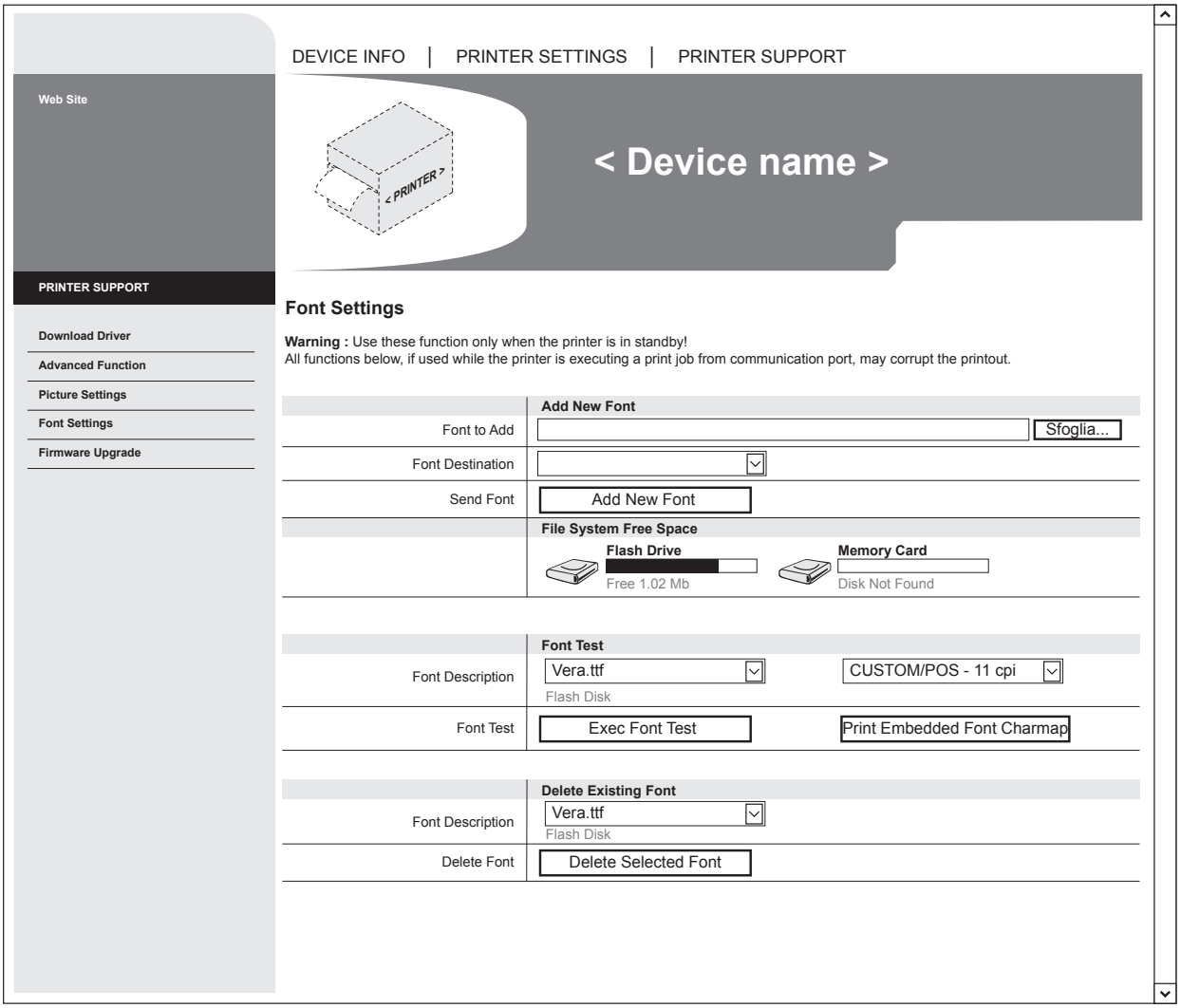
ATTENTION:
The configuration file “PictList.ini” on the device’s Flash Disk, has to be modified even if the new added logo is stored on the SD/MMC card.

12.8 Fonts management

It is possible to store new font in addition to default fonts stored on Flash Disk.
Fonts may be stored on Flash Disk both on Flash Disk and on the SD/MMC card.
The use of the SD/MMC card allows to handle more fonts (however, the max number of manageable fonts is limited by the RAM memory reserved for fonts management).

Embedded Web Server

To add a new font to the device enter the “FONT SETTINGS” page of the “PRINTER SUPPORT” section of the embedded Web Server (see the following figure).



Mass Storage / Server FTP

It is possible to add the new font directly into the folder “FONTS” on the Flash Drive of the device.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par. 12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

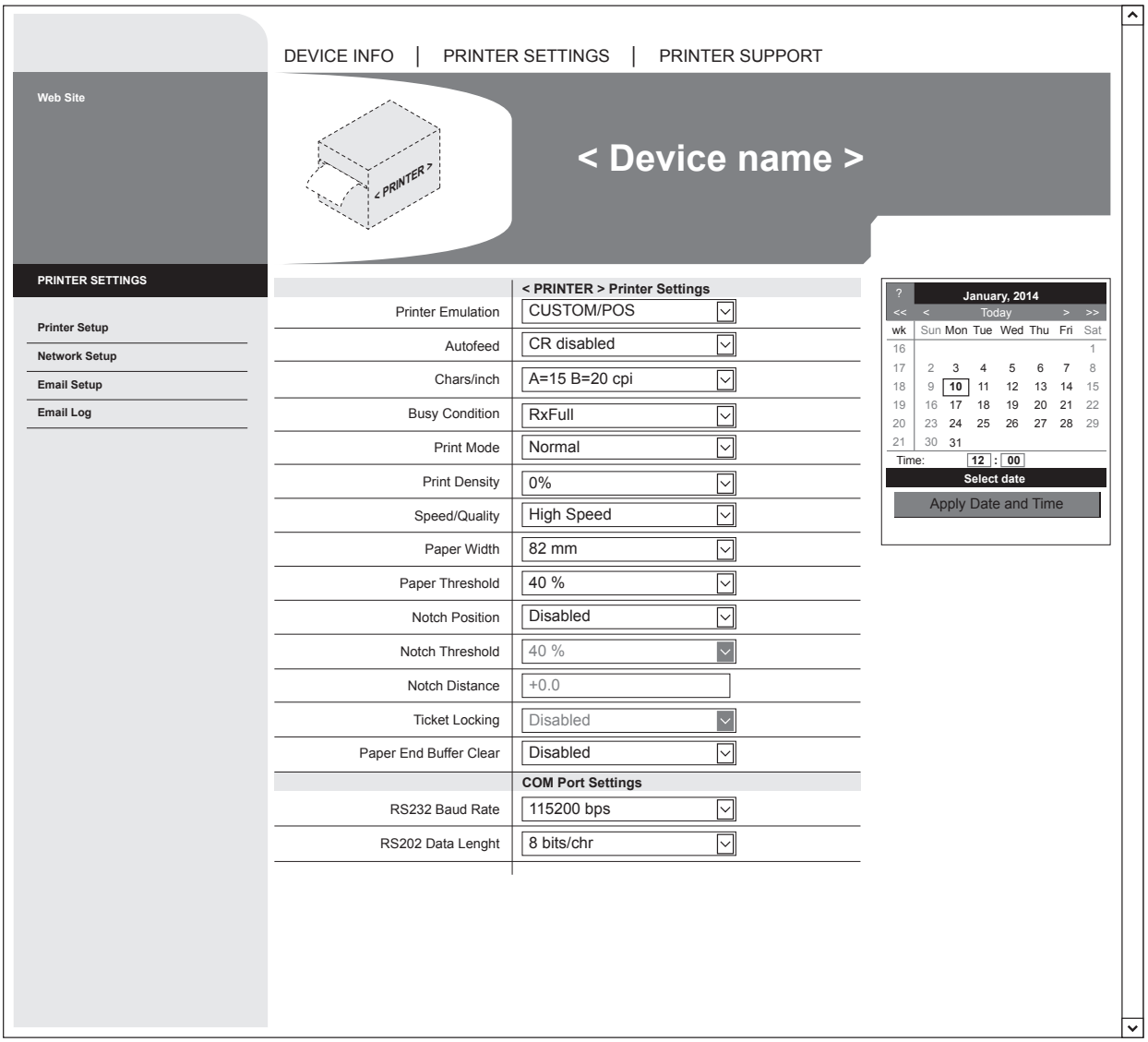
NOTES:
To know the IP address of the device, print the Setup report of the device (see chapter 5) or use software LOCATOR.
Type in the address bar “ftp://” followed by the IP address of the device.

Uploading the new font directly from the “Font” folder of Microsoft® Windows® directory, remember that the displayed font name into the “Font” folder may not match the real name of the font file.

12.9 Setup

Embedded Web Server

Device permits the configuration of default parameters for device and network setup by entering the “PRINTER SETUP” page and the “NETWORK SETUP” page of the “PRINTER SETTINGS” section of the embedded Web Server (see the following figure).



Mass Storage / FTP Server

It is possible to configure the default parameters for device and network setup by editing the “Setup.ini” file on the device Flash Drive.
You can enter the Flash Drive by files sharing from Mass Storage or by files sharing from FTP Server connection (see par.12.1).
In both cases, the relative parameter should be enabled during the configuration process (see chapter 5).

After editing device’s parameter, simply save the “Setup.ini” file to make the modifies activated.

The “Setup.ini” file is a configuration file that contains all the configurable parameters listed in text format and divided into some sections (indicated in square brackets).

The available values for every parameter, are listed after the parameter name. The value marked with the symbol ‘ * ’ is the default one.
To modify device’s parameters, change the numeric value after the name of parameters. To set the parameter to the default value, change the numeric value with the symbol D.
The “Setup.ini” file permits the configuration of the following parameters:

[PRINT]

Printer Emulation	0, 1*	0 = CUSTOM/POS 1 = SVELTA		
Print Mode	0*, 1	0 = Normal 1 = Reverse		
Autofeed	0*, 1	0 = CR disabled 1 = CR enable		
Chars / inch	0, 1*	0 = A=11 B=15 cpi 1 = A=15 B=20 cpi		
Speed / Quality	0, 1*, 2	0 = High Quality 1 = Normal 2 = High Speed		
Paper Width	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14*, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30	0 = 54 mm 1 = 56 mm 2 = 58 mm 3 = 60 mm 4 = 62 mm 5 = 64 mm 6 = 66 mm 7 = 68 mm 8 = 70 mm 9 = 72 mm 10 = 74 mm	11 = 76 mm 12 = 78 mm 13 = 80 mm 14 = 82 mm 15 = 20mm 16 = 22 mm 17 = 24 mm 18 = 26 mm 19 = 28 mm 20 = 30 mm 21 = 32 mm	22 = 34 mm 23 = 36 mm 24 = 38 mm 25 = 40 mm 26 = 42 mm 27 = 44 mm 28 = 46 mm 29 = 48 mm 30 = 50 mm 31 = 52 mm
Paper Threshold	0, 1, 2, 3*, 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %

Notch/B.Mark Position	0*, 1, 2, 3	0 = Disabled 1 = Top	2 = Bottom 3 = Trasparence	
Notch/B.Mark Threshold	0, 1*, 2, 3, 4, 5, 6	0 = 30 % 1 = 40 % 2 = 50 %	3 = 60 % 4 = 70 % 5 = 80 %	6 = 90 %
Notch Distance [mm]				
Notch/B.Mark Min.Width	0*, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	0 = 0 mm 1 = 1 mm 2 = 2 mm 3 = 3 mm 4 = 4 mm 5 = 5 mm 6 = 6 mm 7 = 7 mm	8 = 8 mm 9 = 9 mm 10 = 10 mm 11 = 11 mm 12 = 12 mm 13 = 13 mm 14 = 14 mm 15 = 15 mm	16 = 16 mm 17 = 17 mm 18 = 18 mm 19 = 19 mm 20 = 20 mm
Ticket Locking				
models without triple feeder	0*, 1	0 = Disabled 1 = Enabled		
models with triple feeder	0*, 1, 2, 3	0 = Disabled 1 = By Printer	2 = By Feeder 3 = Complete	
PaperEnd Buffer Clear	0*, 1	0 = Disabled 1 = Enabled		
Ticket Management	0*, 1, 2	0 = Disabled 1 = Short Ticket	2 = Check First	
PaperEnd Management (models with triple feeder)	0*, 1, 2	0 = Print All 1 = Eject	2 = Retract	
RFID Module Baud Rate	0*, 1, 2, 3, 4, 5, 6, 7, 8	1 = 38400 bps 2 = 57600 bps 3 = 115200 bps	4 = 1200 bps 5 = 2400 bps 6 = 4800 bps	7 = 9600 bps 8 = 19200 bps
Print Density	0, 1, 2, 3, 4*, 5, 6, 7, 8	0 = - 50 % 1 = - 37 % 2 = - 25 %	3 = - 12 % 4 = 0 % 5 = + 12 %	6 = + 25 % 7 = + 37 % 8 = + 50 %

[INTERFACE]

RS232 Baud Rate	1, 2, 3, 4, 5, 6, 7, 8*	1 = 1200 bps 2 = 2400 bps 3 = 4800 bps	4 = 9600 bps 5 = 19200 bps 6 = 38400 bps	7 = 57600 bps 8 = 115200 bps
RS232 Data Length	0*, 1	0 = 8 bits/chr 1 = 7 bits/chr		
RS232 Parity	0*, 1, 2	0 = None 1 = Even	2 = Odd	
RS232 Handshaking	0*, 1	0 = Xon/Xoff 1 = Hardware		
Busy Condition	0*, 1	0 = RxFull 1 = OffLine/RxFull		
USB Mass Storage	0*, 1	0 = Disabled 1 = Enabled		
USB Address Number	0*, 1, 2, 3, 4, 5, 6, 7, 8, 9	0 = 0 1 = 1 2 = 2 3 = 3	4 = 4 5 = 5 6 = 6 7 = 7	8 = 8 9 = 9

[SVELTA]

Ticket X Dimension
Ticket Y Dimension
Notch Distance
Notch Width
Barcode timeout
Ticket Offset X
Ticket Offset Y

[NETWORK]

DHCP Client	0*, 1	0 = Disabled 1 = Enabled
FTP Server	0*, 1	0 = Disabled 1 = Enabled
IP Address		
Subnet Mask		
Default Gateway		
Domain Name System		
TCP Printer Port		
MAC Address (solo lettura)		

NOTA:
To know the IP address of the device, print the Set-up report of the device (see chapter 5) or use “Locator”. Type in the address bar “ftp://” followed by the IP address of the device.

Part Number : 76200000000900 Rev.2.50

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