

USER MANUAL

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# KM216HIII

*CUSTOM*<sup>®</sup>



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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 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.

#### 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.
- Do not fix indissolubly the device or its accessories such as power supplies unless specifically provided in this manual.
- When positioning the device, make sure cables do not get damaged.
- [Only OEM equipment] The equipment must be installed in a kiosk or system that provides mechanical, electrical and fire protection.
- The mains power supply must comply with the rules in force in the Country where you intend to install the equipment.
- 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.
- Make sure the power cable provided with the appliance, or that you intend to use is suitable with the wall socket available in the system.
- Make sure the electrical system that supplies power to the device is equipped with a ground wire and is protected by a differential switch.
- Before any type of work is done on the machine, disconnect the power supply.
- Use the type of electrical power supply indicated on the device label.
- These devices are intended to be powered by a separately certified power module having an SELV, non-energy hazardous output. (IEC60950-1 second edition).
- [Only POS equipment] The energy to the equipment must be provided by power supply approved by CUSTOM S.p.A.
- Take care the operating temperature range of equipment and its ancillary components.
- 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.
- The equipment must be accessible on these components only to trained, authorized personnel.
- Periodically perform scheduled maintenance on the device to avoid dirt build-up that could compromise the correct, safe operation of the unit.
- 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.
- Use consumables approved by CUSTOM S.p.A.



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 2014/30/EU and 2014/35/EU inasmuch as it was designed in conformity with the provisions laid down in the following Standards:

- EN 55032 (*Electromagnetic compatibility of multimedia equipment - Emission Requirements*)
- EN 55024/EN55035 (*Electromagnetic compatibility of multimedia equipment - Immunity requirements*)
- EN IEC/EN62368-1 (*Audio/video, information and communication technology equipment*)

The device is in conformity with the essential requirements laid down in Directives 2014/53/EU about devices equipped with intentional radiators. The Declaration of Conformity and other available certifications can be downloaded from the site [www.custom4u.it](http://www.custom4u.it).



GUIDELINES FOR THE DISPOSAL OF THE PRODUCT

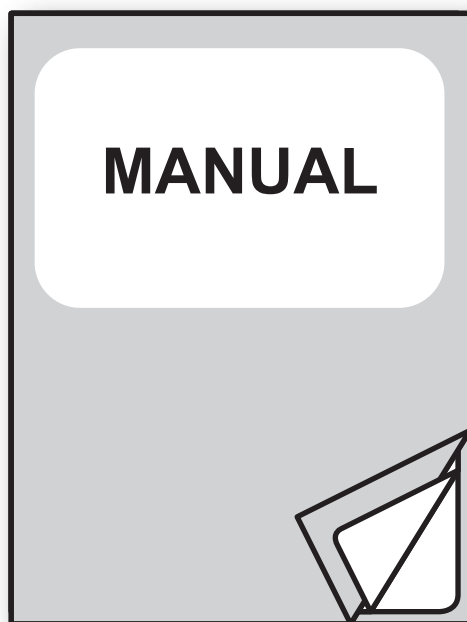
The crossed-out rubbish bin logo means that used electrical and electronic products shall NOT be mixed with unsorted municipal waste. For more detailed information about recycling of this product, refer to the instructions of your country for the disposal of these products.

- 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 2012/19/EU, 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.





For details on the commands,  
refer to the manual with code **77200000004800**

For further information about the use of “PrinterSet” tool  
refer to the manual with code **78200000001800**



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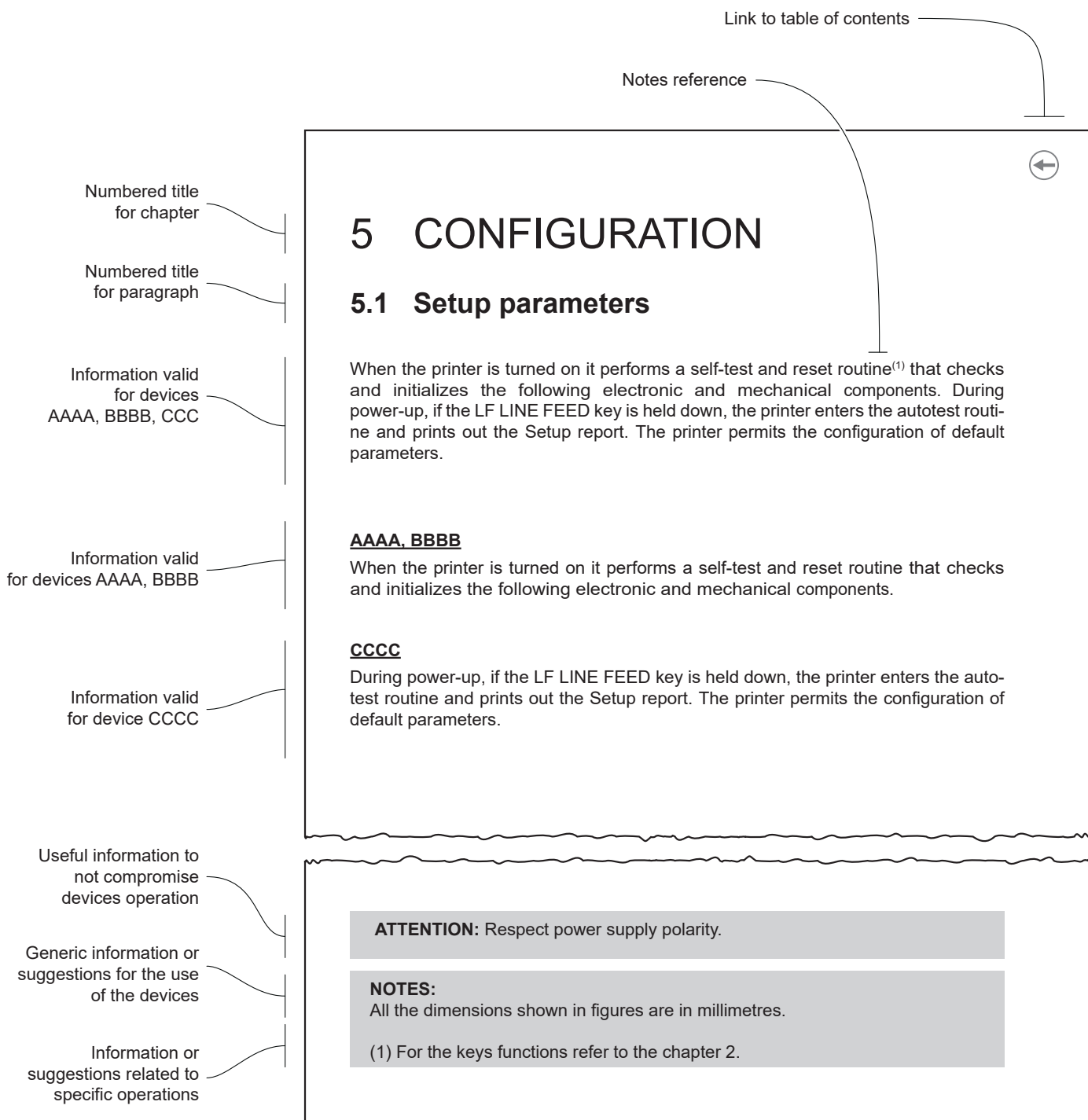
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# 1 INTRODUCTION

This document is divided into sections and chapters. Each chapter can be reached by the index at the beginning of this document. The index can be reached by the button on each page as shown in the diagram below.







## 2 IDENTIFICATION OF THE MODELS

NOMENCLATURE	DESCRIPTION
KM216HIII e200	KM216HIII with ejector and 200 dpi printhead
KM216HIII c200	KM216HIII with drop ticket and 200 dpi printhead



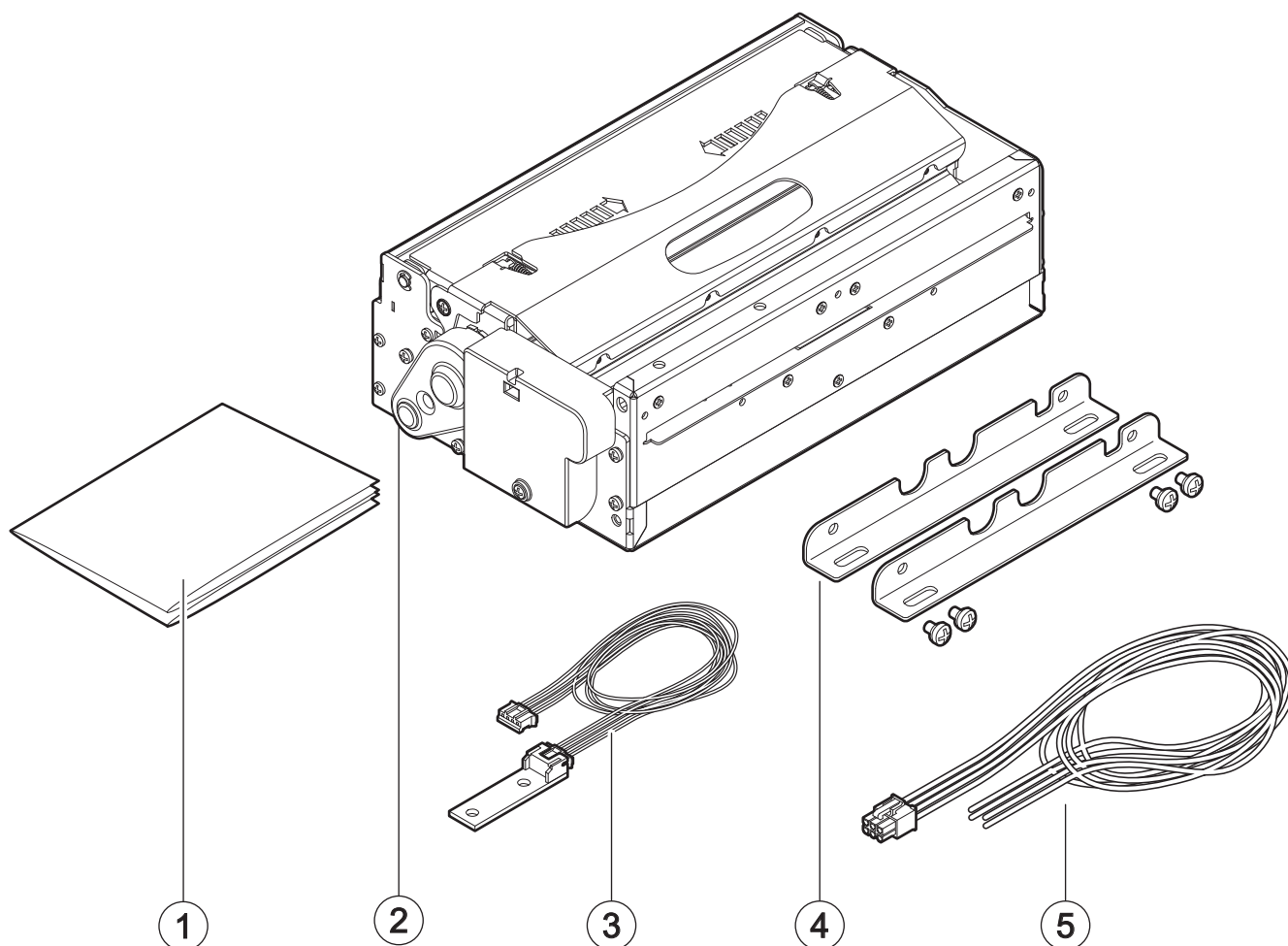
# 3 DESCRIPTION

## 3.1 Box contents

Remove all the box contents (see following figures) 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.

1. Documentation (installation instruction)
2. Device
3. Connection cable + external low paper sensor board
4. Additional fixing brackets (right and left) with fixing screws (x 4)
5. Power supply cable

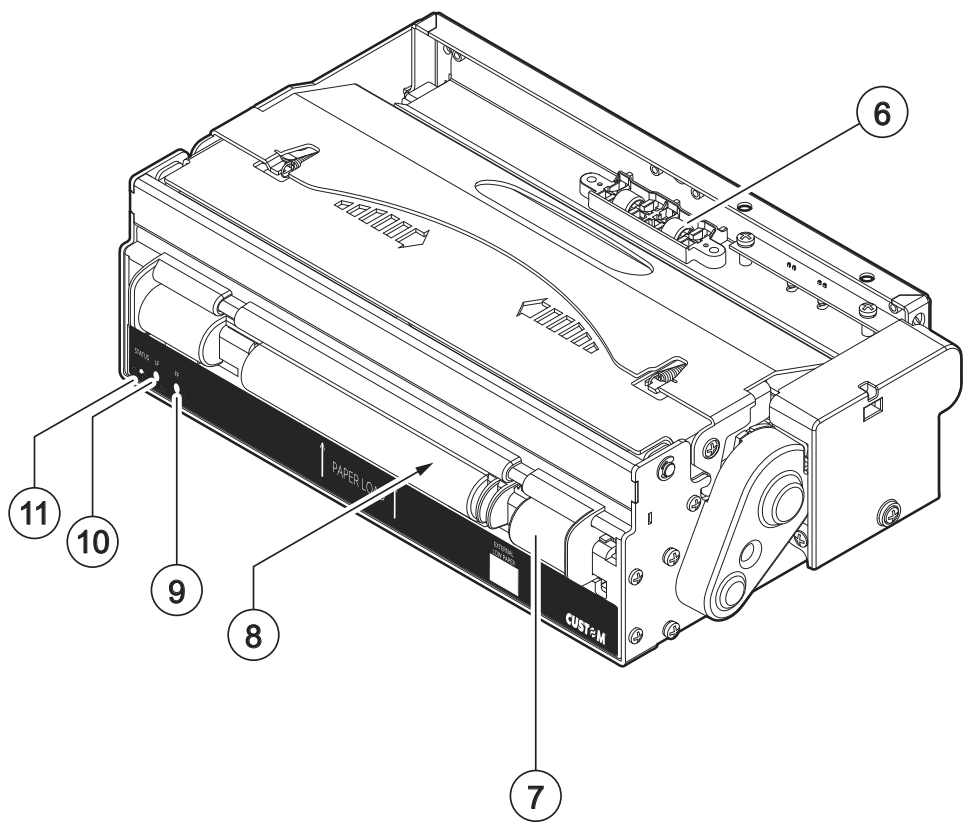
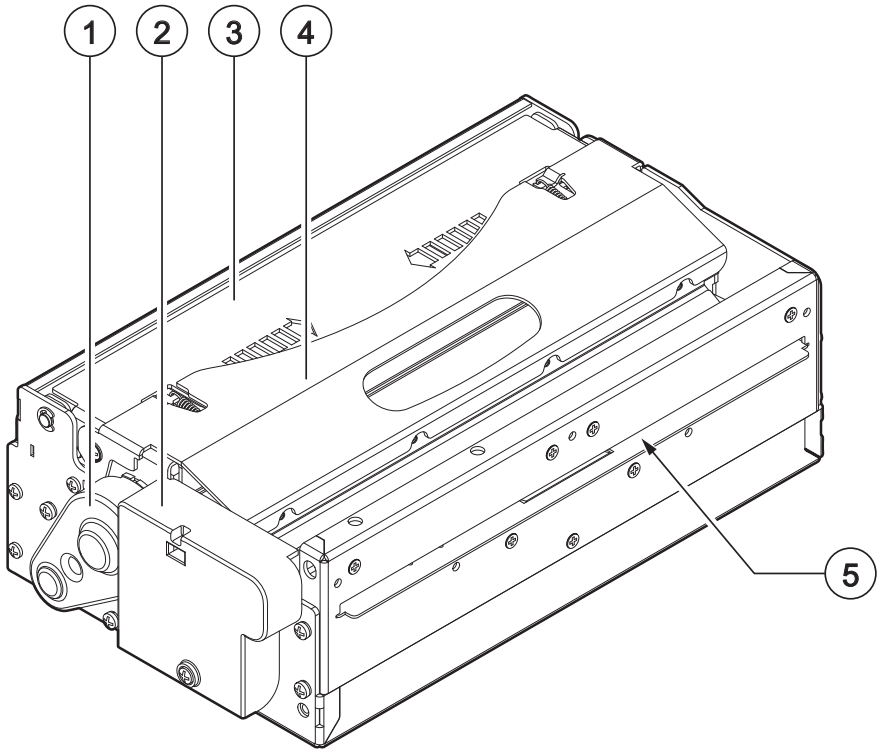




## 3.2 Device components: external views

### KM216HIII e200

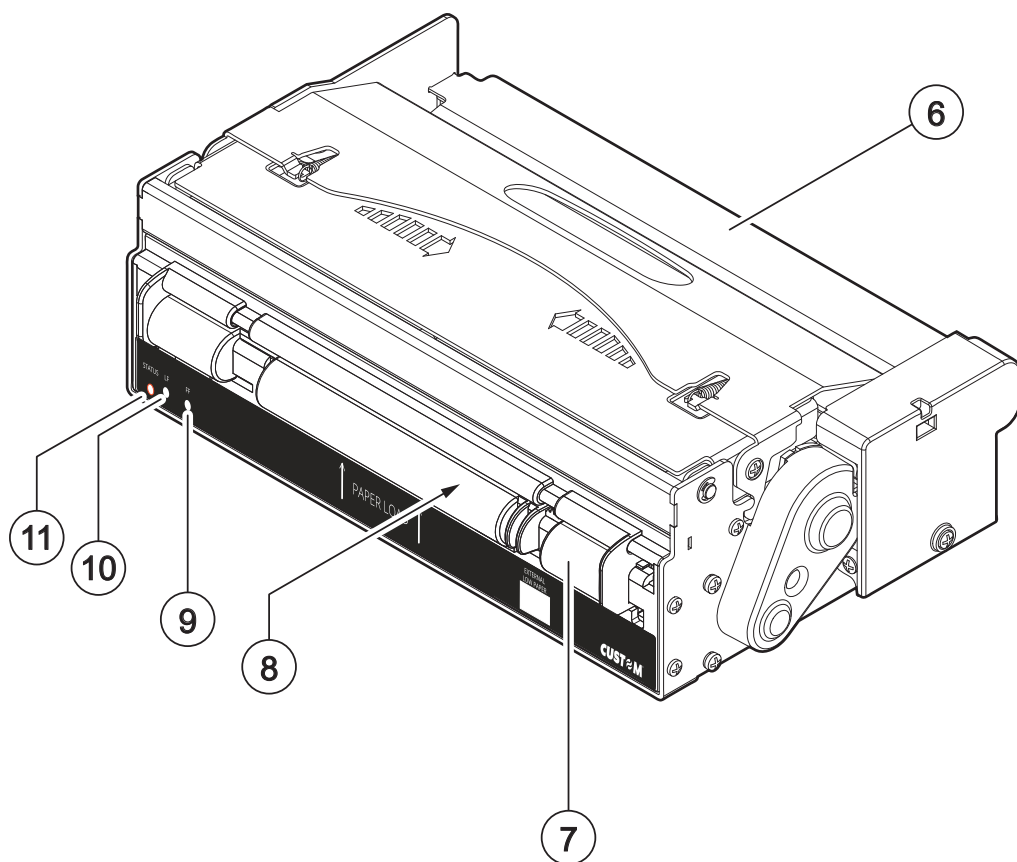
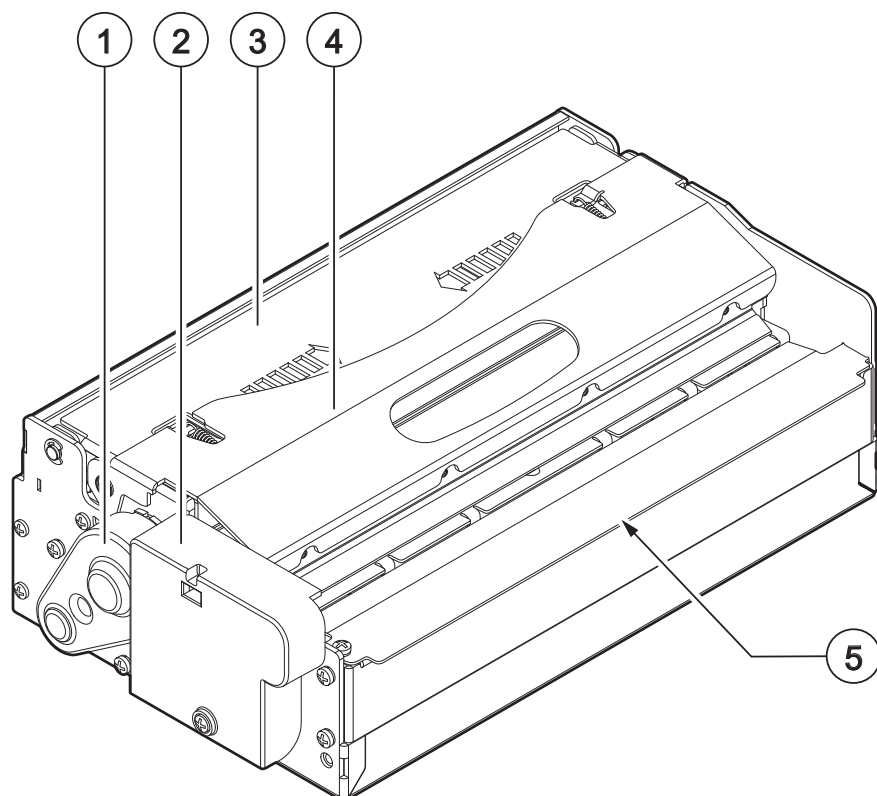
1. Gears protection
2. Cutter motor protection
3. Printing head group
4. Printing head group opening lever
5. Paper output
6. Ejector roller
7. Adjustable cursor for paper input
8. Paper input
9. FF FORM FEED key
10. LF LINE FEED key
11. Status LED





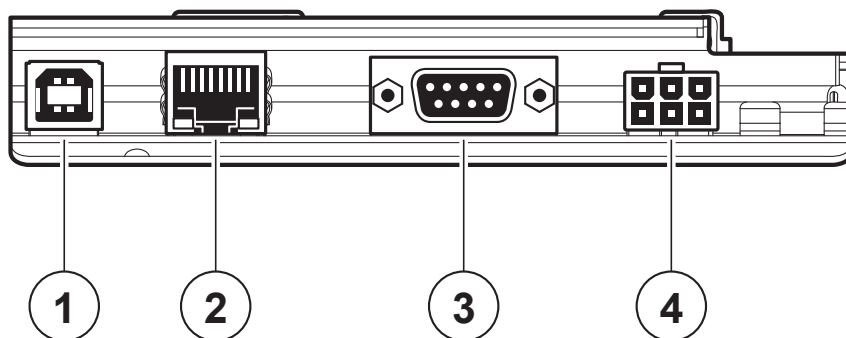
## **KM216HIII c200**

1. Gears protection
2. Cutter motor protection
3. Printing head group
4. Printing head group opening lever
5. Paper output
6. Lower paper slide
7. Adjustable cursor for paper input
8. Paper input
9. FF FORM FEED key
10. LF LINE FEED key
11. Status LED



### 3.3 Device components: connectors view

1. USB port
2. Ethernet port
3. RS232 serial port
4. Power supply port

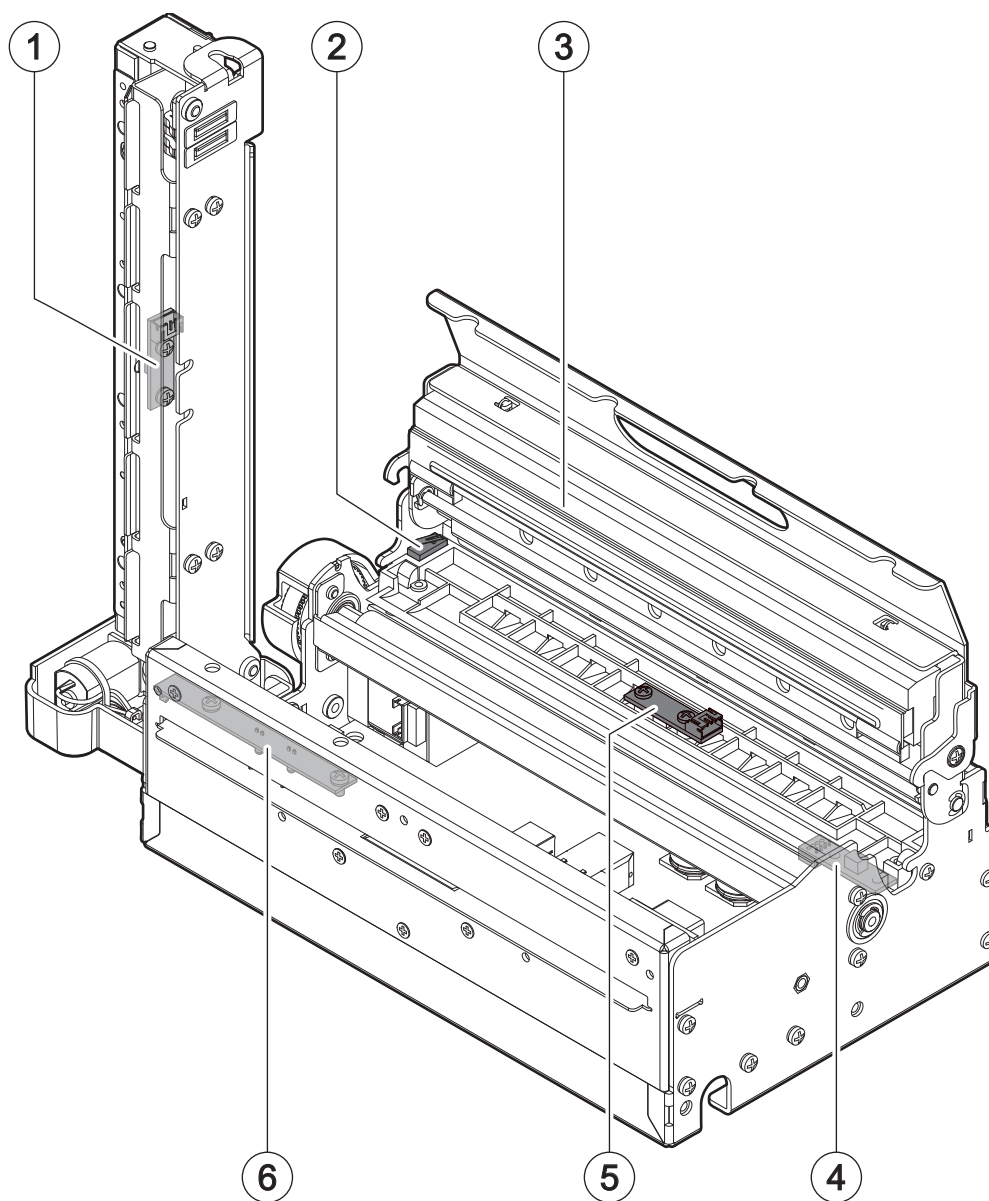




### 3.4 Device components: internal view

#### KM216HIII e200

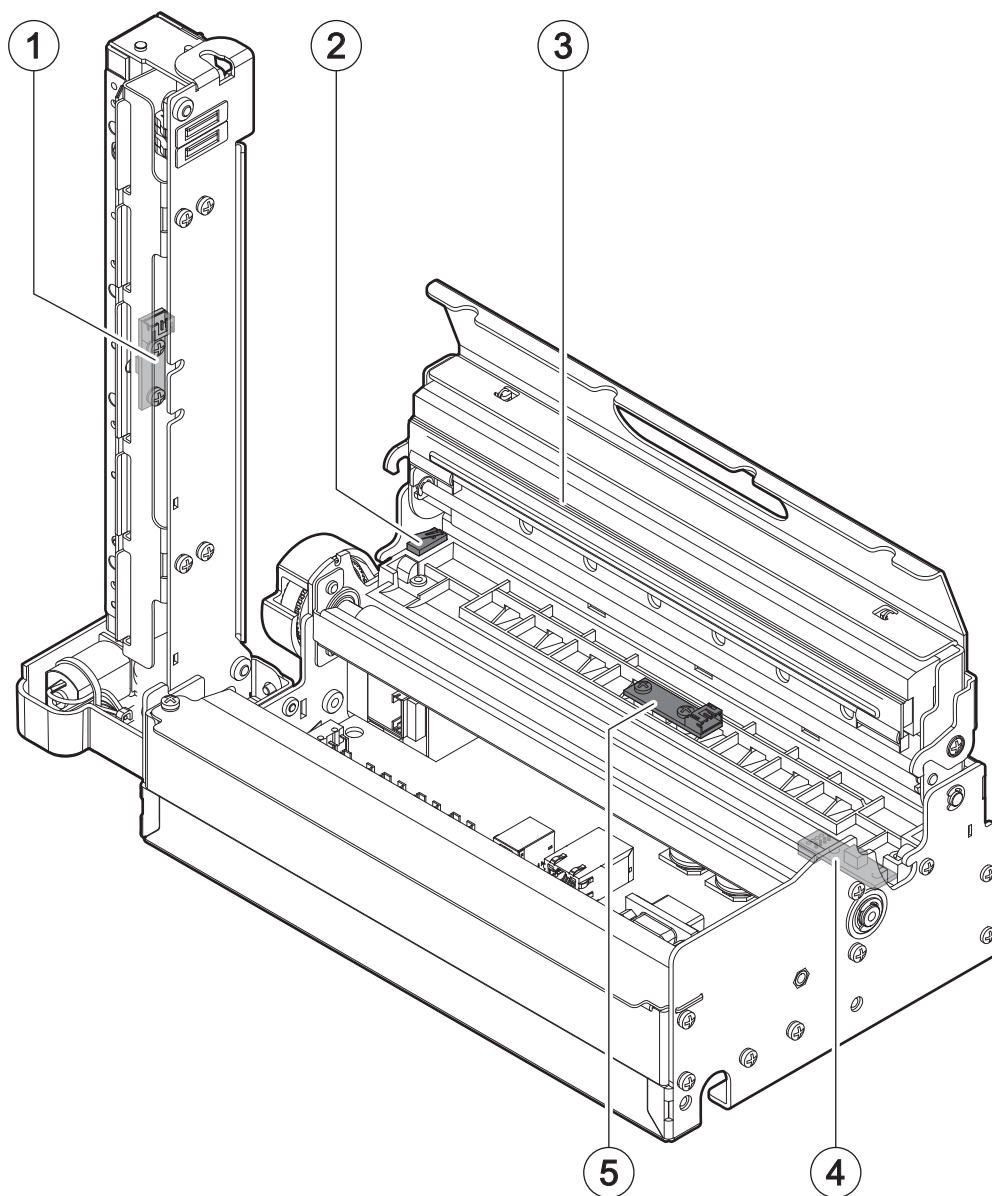
1. Sensor for detecting autocutter paper presence
2. Sensor for detecting printhead group opening
3. Printhead with temperature sensor
4. Sensor for detecting black mark on the thermal side of paper
5. Sensor for detecting paper in presence
6. Sensor for detecting paper out presence





**KM216HIII c200**

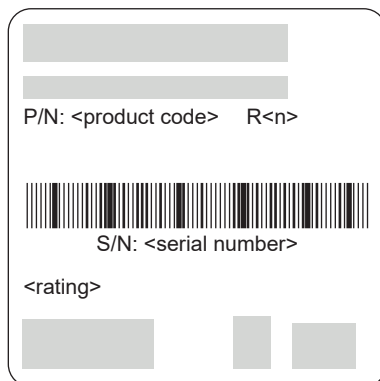
1. Sensor for detecting autocutter paper presence
2. Sensor for detecting printhead group opening
3. Printhead with temperature sensor
4. Sensor for detecting black mark on the thermal side of paper
5. Sensor for detecting paper in presence



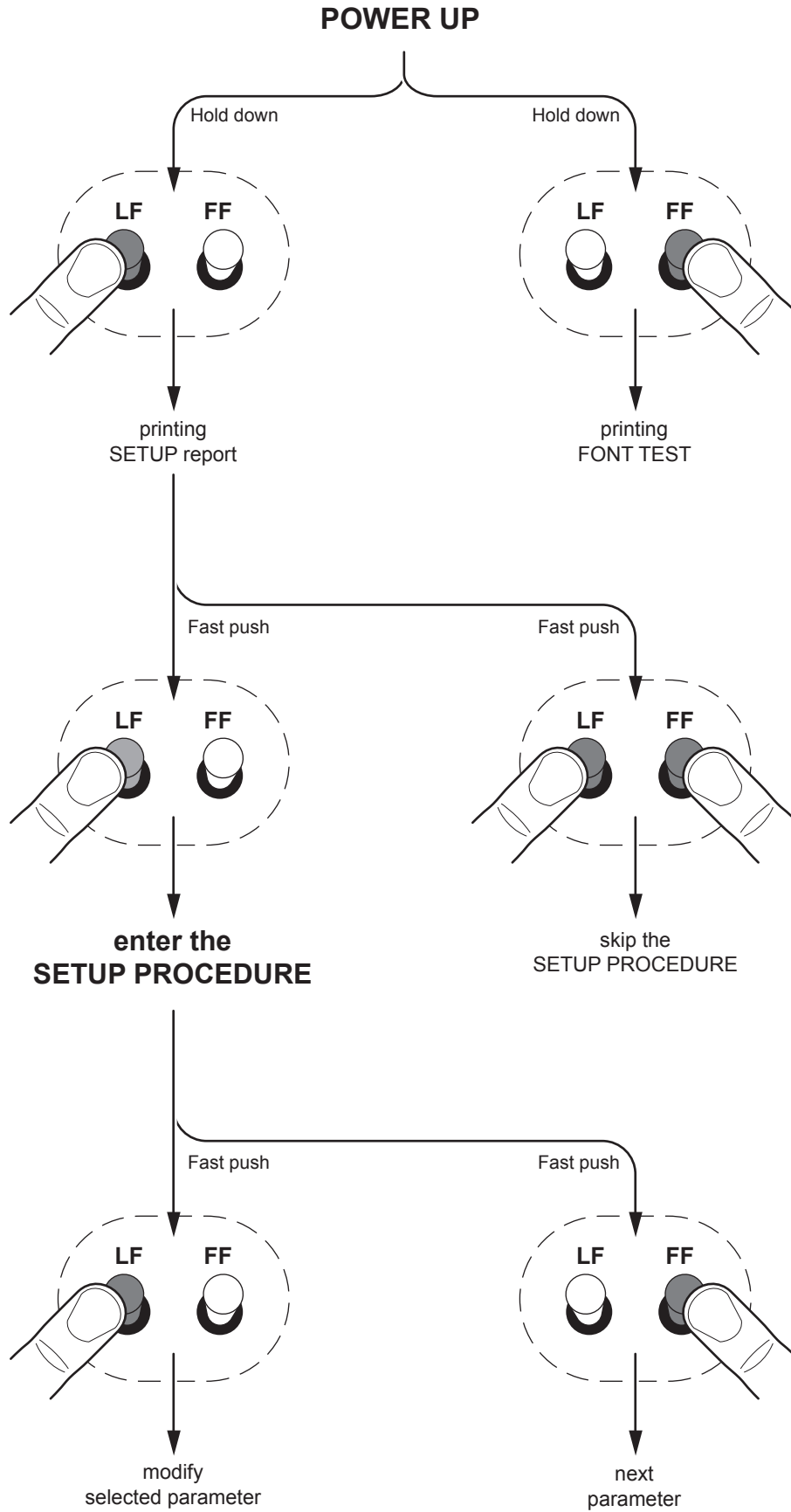


## 3.5 Product label

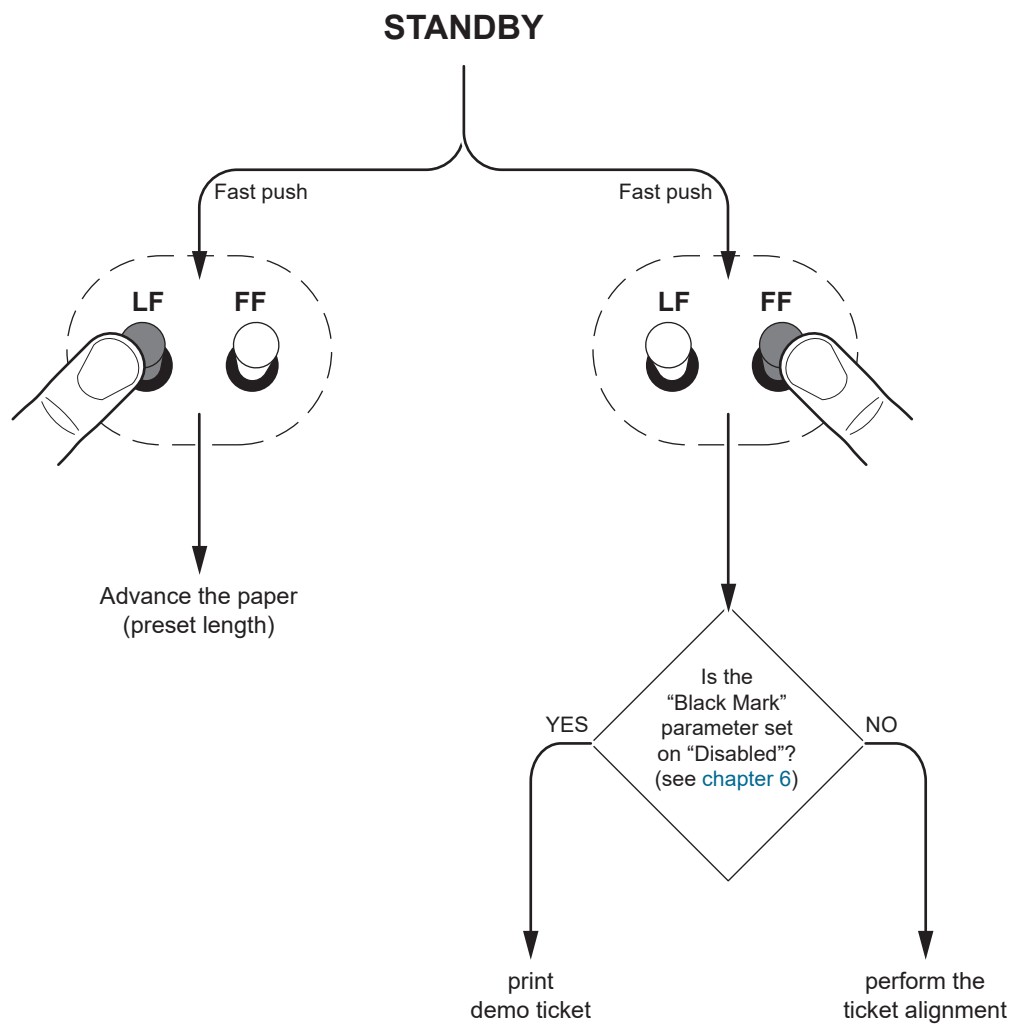
The main data used to identify the machine are shown on the label attached to the side of the device. In particular, it shows the electrical data for the connection to a power source. It also shows the product code, the serial number and the hardware revision (R).



### 3.6 Key functions: power up



### 3.7 Key functions: standby





## 3.8 Status messages

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
	x 5	LOW PAPER
YELLOW RECOVERABLE ERROR	x 2	PRINTHEAD OVERHEATED
	x 3	PAPER END
	x 4	PAPER JAM
	x 5	POWER SUPPLY VOLTAGE INCORRECT
	x 6	COVER OPEN
RED UNRECOVERABLE ERROR	x 3	RAM ERROR
	x 4	EEPROM ERROR
	x 5	AUTOCUTTER ERROR
	x 6	AUTOCUTTER OPEN



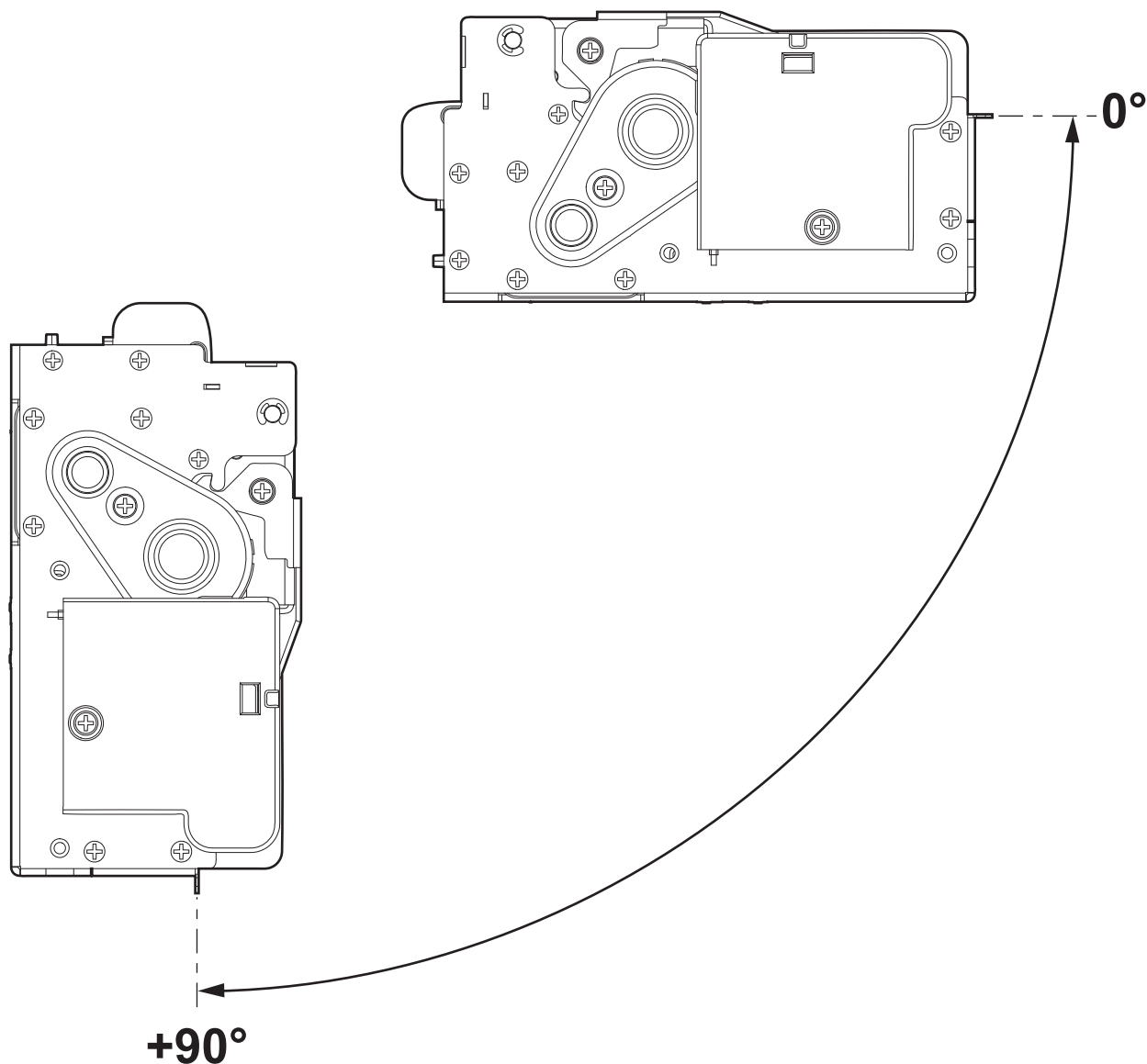
# 4 INSTALLATION

## 4.1 Mounting specifications

### KPM216HIII h200, KPM216HIII h300

The device is designed for mounting in the following positions:

- Horizontal ( $0^\circ$ )
- Vertical ( $+90^\circ$ )
- All the intermediate positions between horizontal and vertical positions



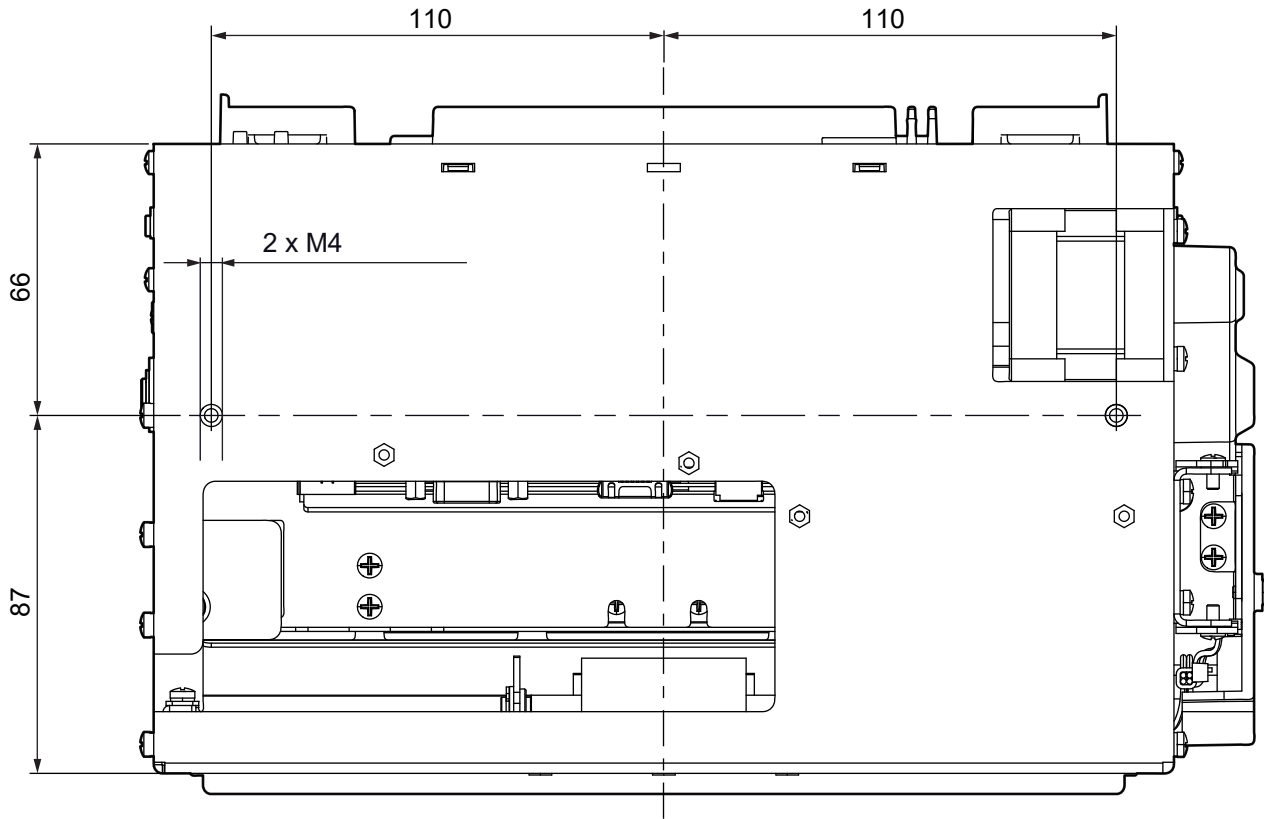
**ATTENTION:**  
Respect the mounting specifications to guarantee the right ticket emission.



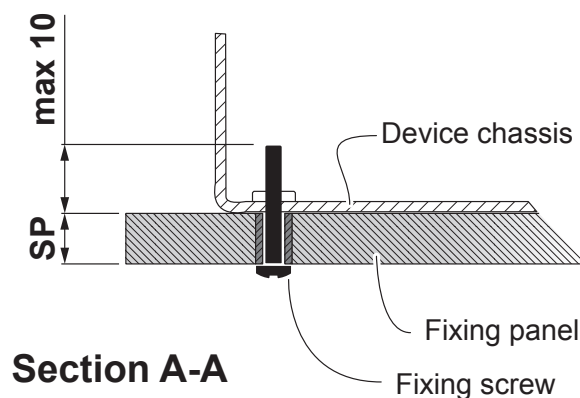
## 4.2 Fastening

### KM216HIII e200

The device is provided with two fixing holes on the bottom of device (see following figure, dimensions in millimetres). To fasten the device on a panel, use two M4 screws.



It's very important to consider the screws length not to damage the internal components placed near the fixing holes (see following figure).



The screw length (L) will be calculated according to the thickness of the panel (Sp) on which the device is fixed, as follows:

$$L \leq 10 \text{ mm} + Sp$$

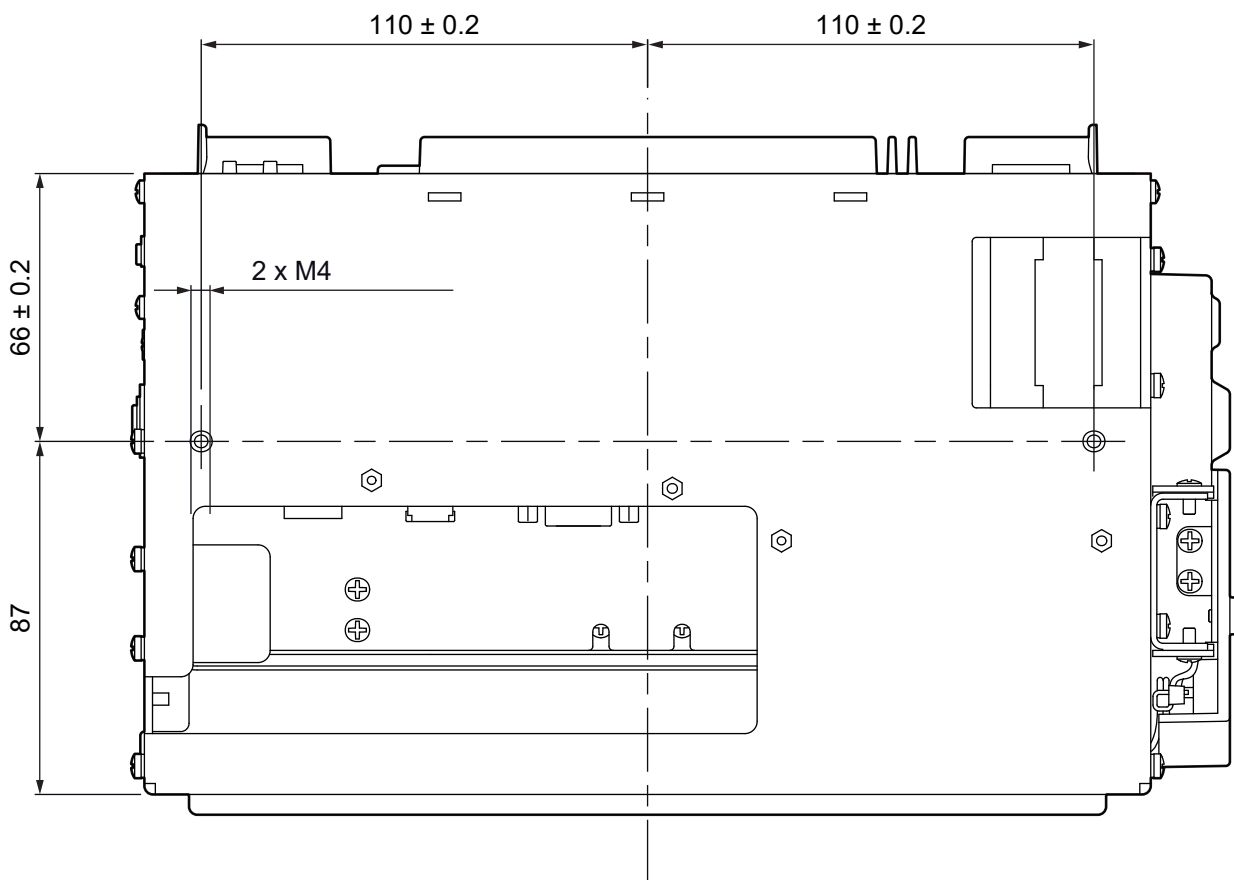
For example, if panel thickness is 10 mm (Sp = 10 mm), the maximum length for screws will be 20 mm.



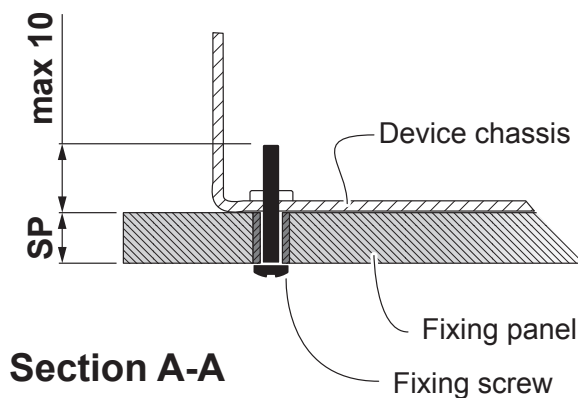


### **KM216HIII e200**

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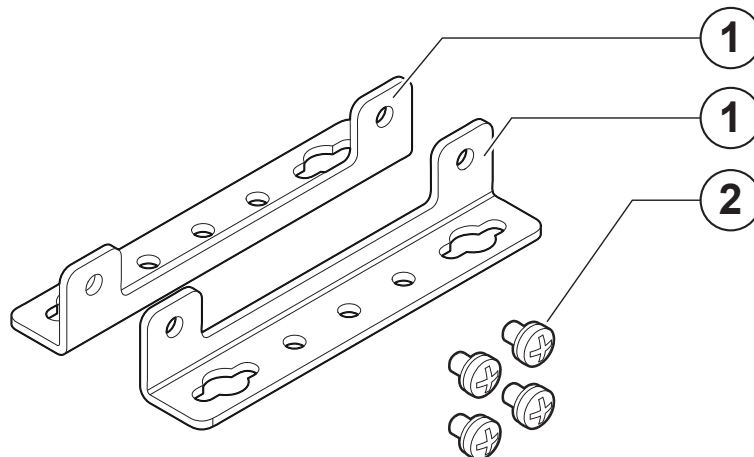
For example, if panel thickness is 10 mm (Sp = 10 mm), the maximum length for screws will be 20 mm.

## 4.3 Fixing brackets

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

The kit contains:

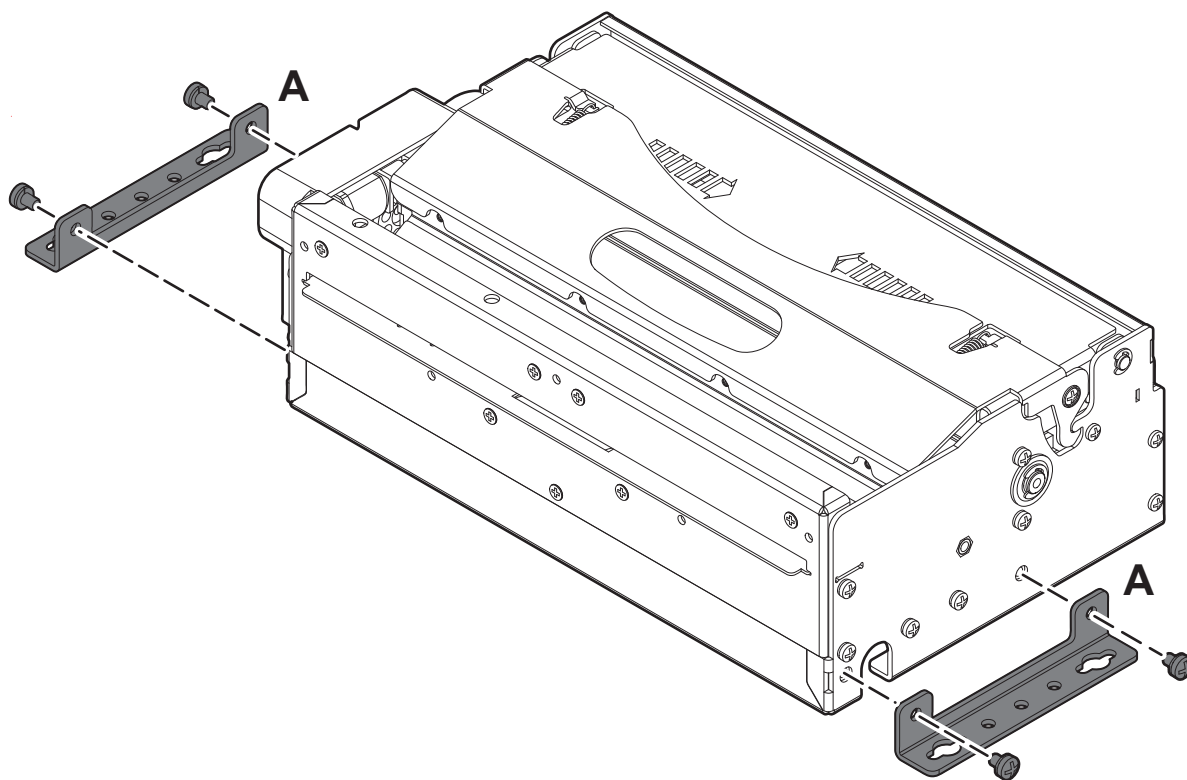
1. fixing brackets (right and left);
2. fixing screws (x4).



### **KM216HIII e200**

For the assembly procedure, proceed as follows:

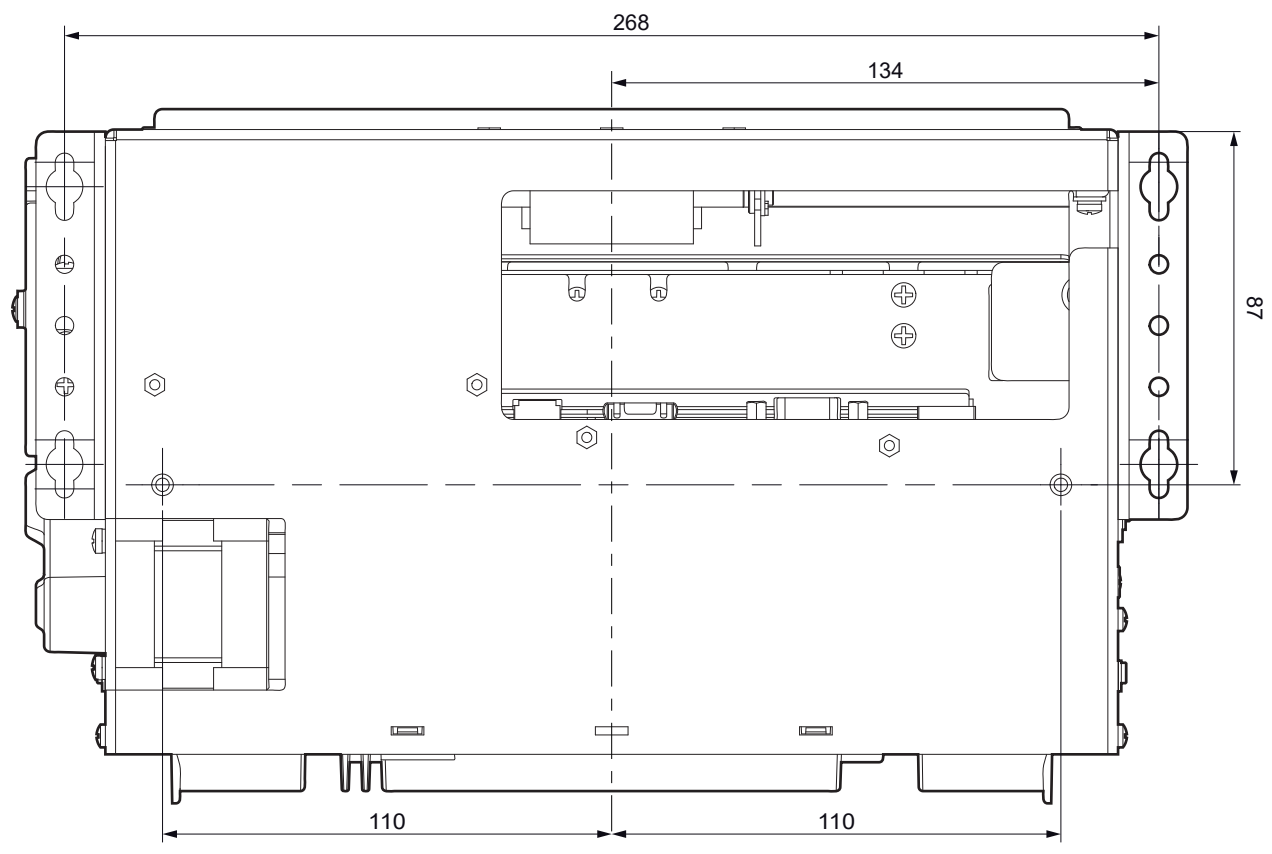
**1**



Fix the brackets as shown in figure.  
Observe the orientation of the slot A.



The following figure shows the device overall dimensions with the additional fixing brackets (dimensions in millimetres):

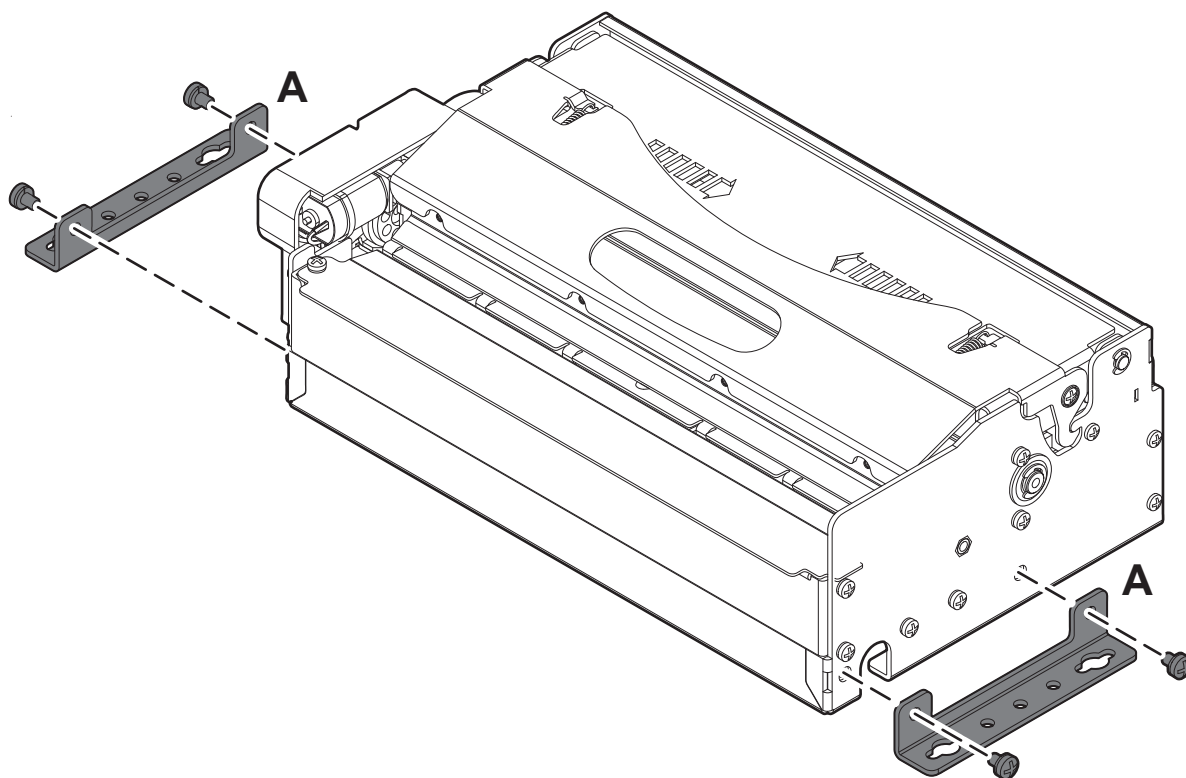




## **KM216HIII c200**

For the assembly procedure, proceed as follows:

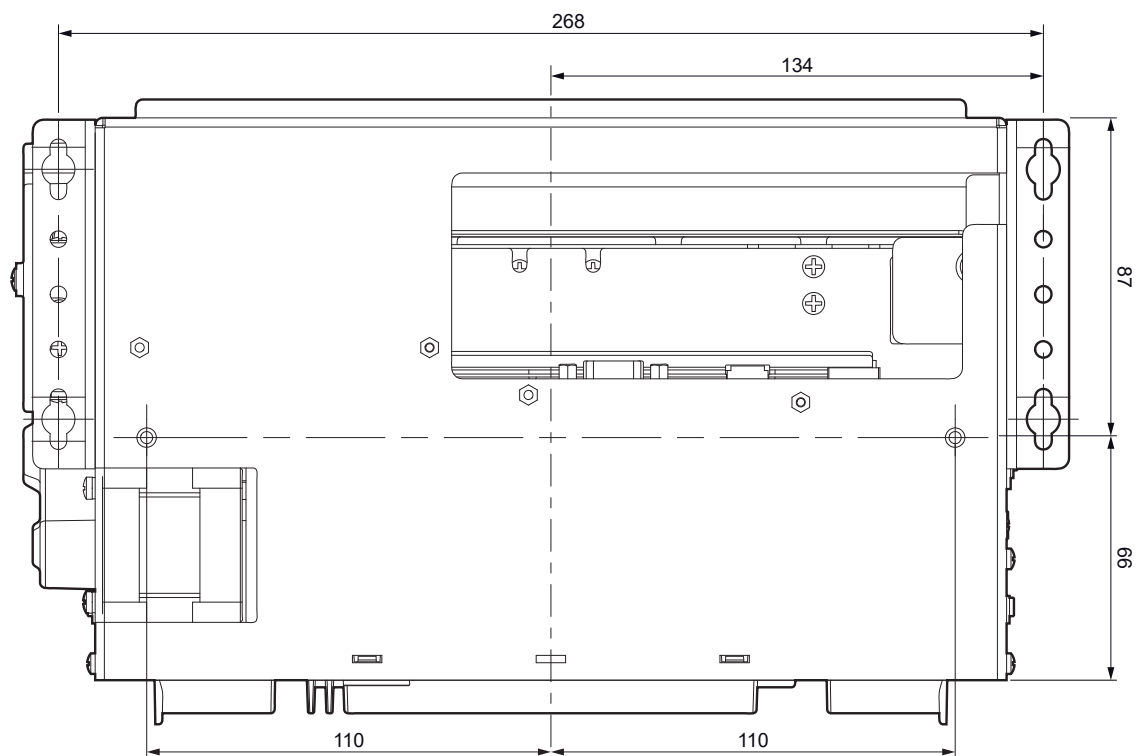
**1**



Fix the brackets as shown in figure.  
Observe the orientation of the slot A.



The following figure shows the device overall dimensions with the additional fixing brackets (dimensions in millimetres):

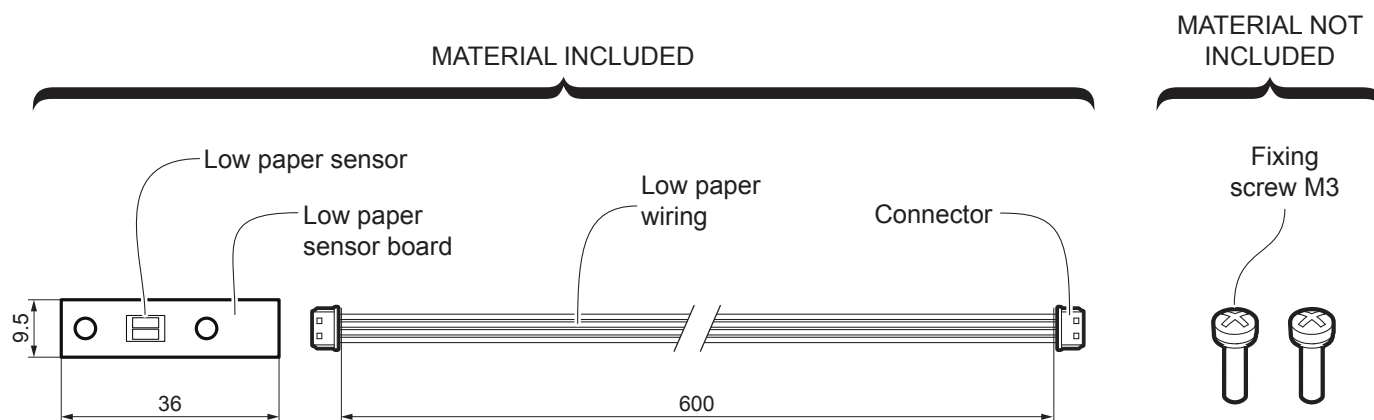




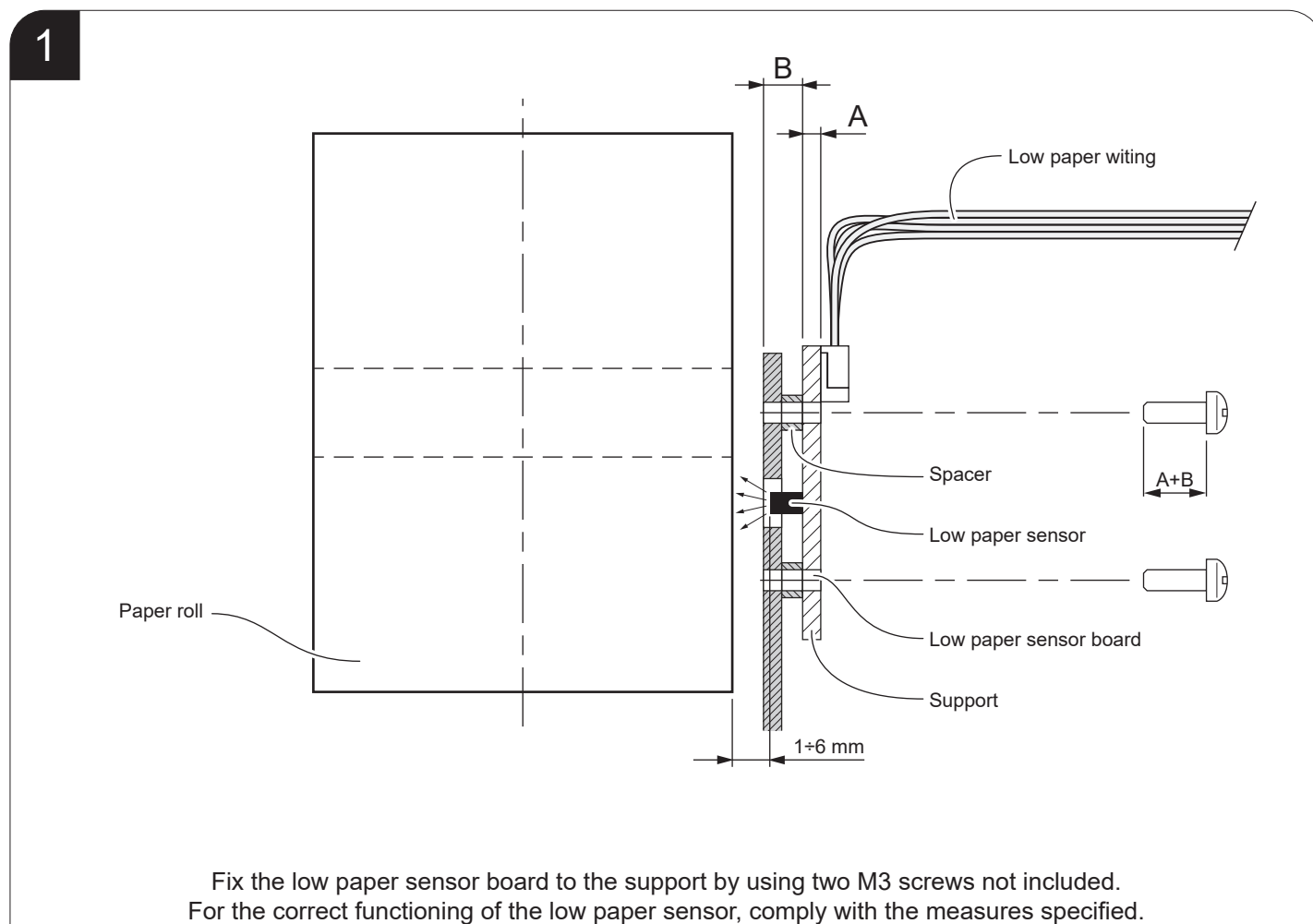
## 4.4 Low paper sensor

The device includes a low paper sensor with the cable (see following figure). To fix the sensor, use two M3 screws not supplied.

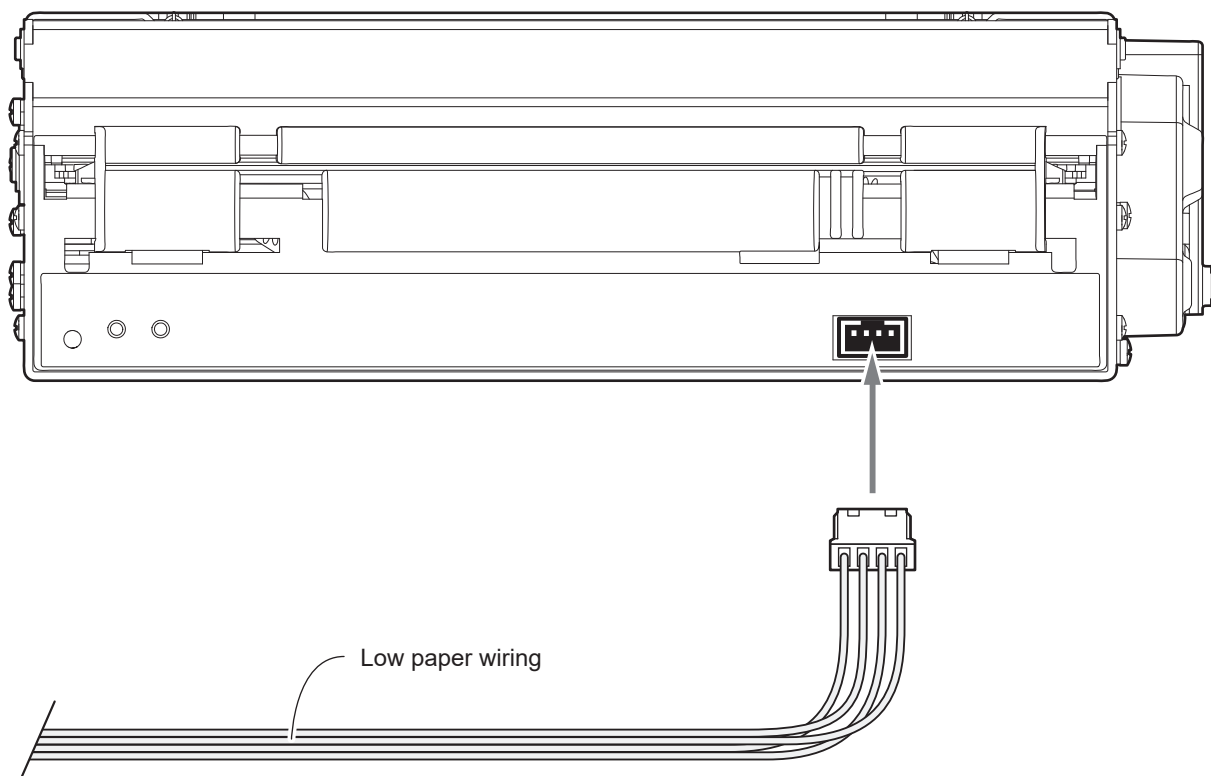
All the dimensions shown in following figures are in millimetres.



For the assembly procedure, proceed as follows:



2

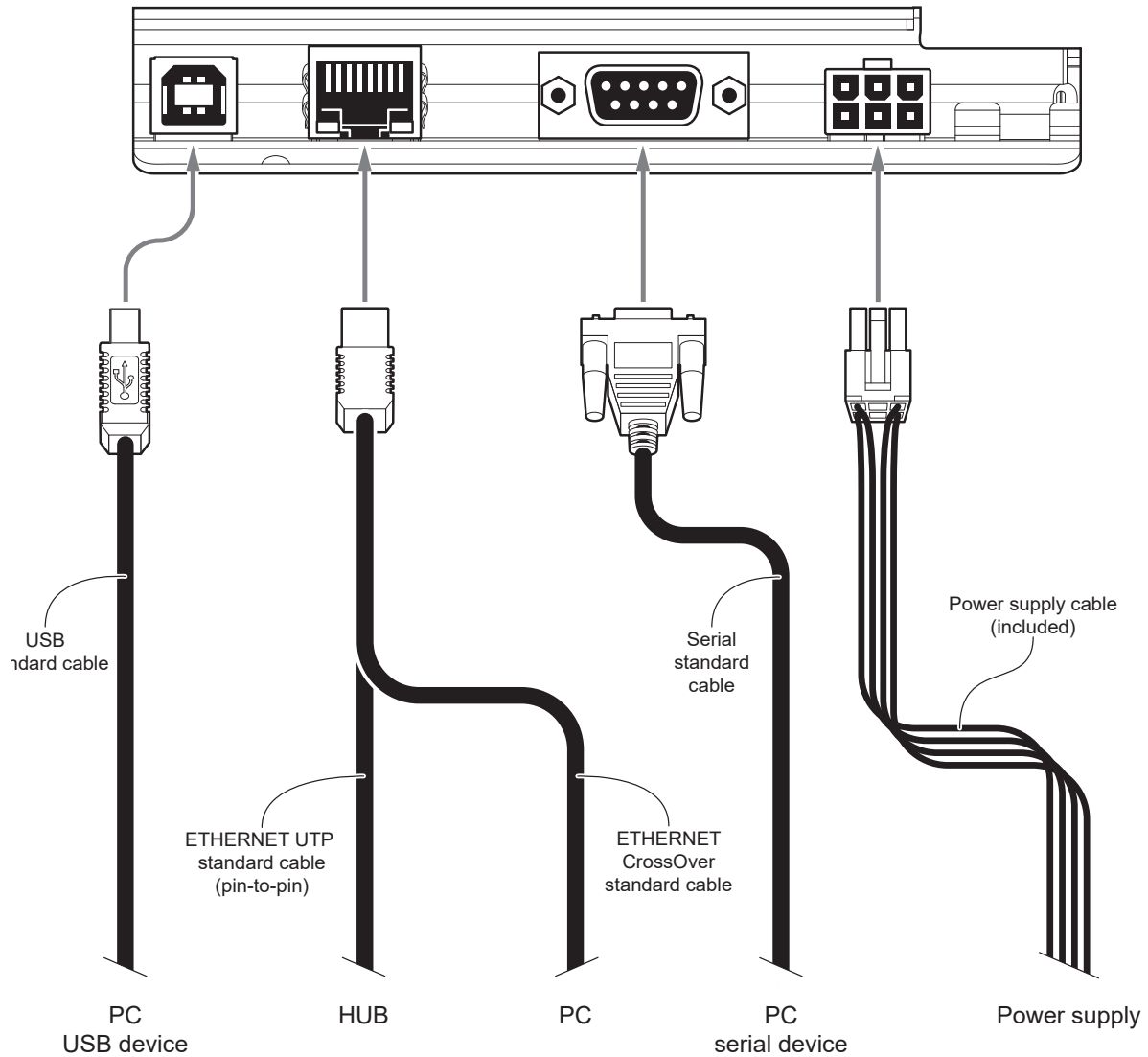


Connect the wiring coming from the low paper sensor board at the connector shown in figure.



## 4.5 Connections

The following figure shows the possible connections for the device. When the RS232 and USB communication cables are connected to the device at the same time, communication takes place via the USB port.



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



## 4.6 Pinout

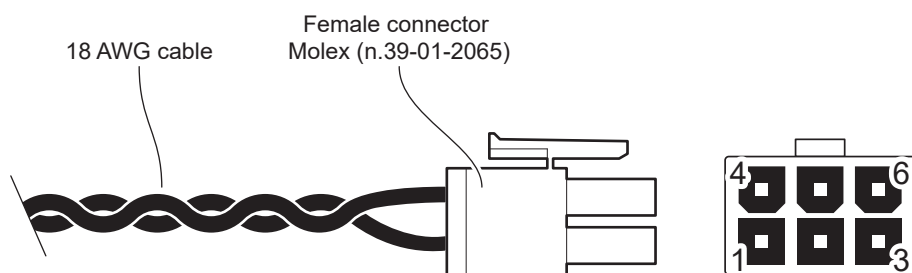


### POWER SUPPLY

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

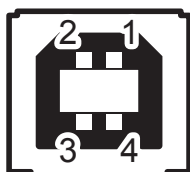
J18	1	+24 Vdc
	2	+24 Vdc
	3	+24 Vdc
	4	GND
	5	GND
	6	GND

The following figure shows the connector pinout of power supply cable:



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

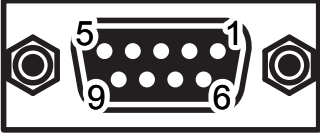
**ATTENTION:**  
Respect power supply polarity.



### USB INTERFACE

Female USB type B connector

J4	1	USB0-VBUS (in)
	2	USB0_D- (in/out)
	3	USB0_D+ (in/out)
	4	GND
	SH1	SHIELD
	SH2	SHIELD



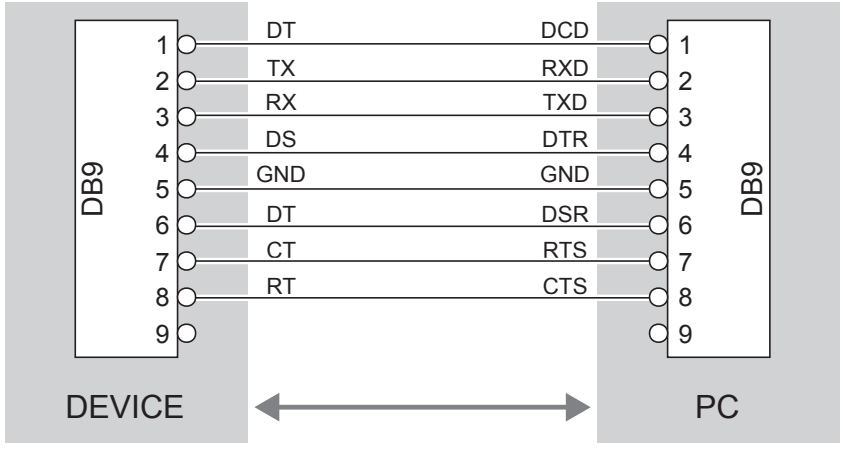
## RS232 SERIAL INTERFACE

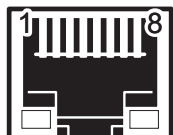
Female DB9 connector

J2	1	DT	
	2	TX	(out) During transmission, takes the values -VRS232 and +VRS232 depending on data
	3	RX	(in) During reception, takes the values -VRS232 and +VRS232 depending on data
	4	DS	
	5	GND	
	6	DT	When +VRS232, device is power on
	7	CT	
	8	RT	(out) When +VRS232, device is ready to receive data
	9	n.c.	
	SH1	SHIELD	
	SH2	SHIELD	

Given the presence of the RS232 standard, logic value "0" corresponds to the voltage value +VRS232 (voltage value between +3Vdc and +15Vdc) and logic value "1" corresponds to the voltage value -VRS232 (voltage value between -3Vdc and -15Vdc).

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





## ETHERNET INTERFACE

Female RJ45 connector

J5	1	RX +1
	2	+3.3V ETH
	3	RX -1
	4	TX +1
	5	+3.3V ETH
	6	TX -1
	7	n.c
	8	GND
	9	+3.3 V
	10	LED-LNK
	11	+3.3 V
	12	LED-LAN
	13	SH1
	14	SH2

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 when occurs a data reception or transmission
LED-LAN	The LED light (green color) on when occurs a 100 Mbit connection and off when occurs a 10 Mbit 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 J5 before the isolation voltage transformer (through-hole pin).



## 4.7 Driver and SDK

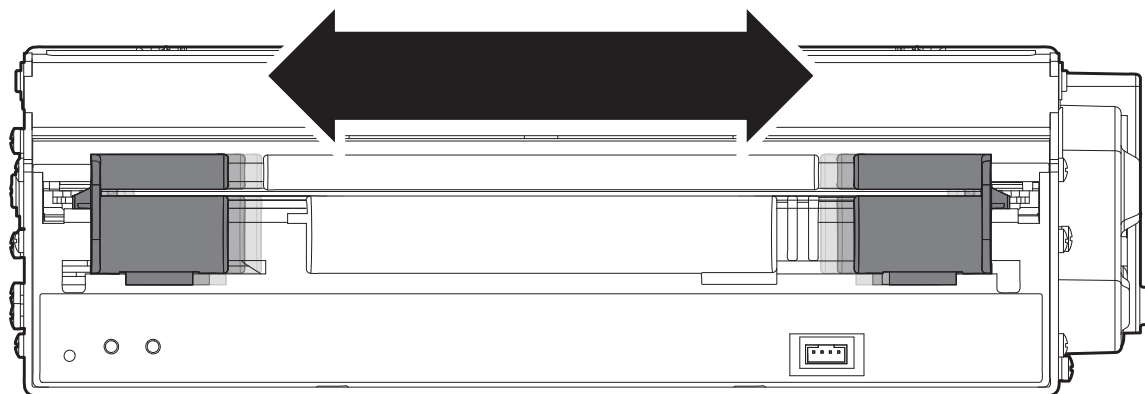
In the website [www.custom4u.it](http://www.custom4u.it) are available the drivers for the following operating system:

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 PC, then click OK. Follow the instructions on the screen to install the driver.
	Driver for Windows VISTA (32/64 bit)	
	Driver for Windows 7 (32/64 bit)	
	Driver for Windows 8 (32/64 bit)	
	Driver for Windows 8.1 (32/64 bit)	
	Driver for Windows 10 (32/64 bit)	
	Self-installing driver for Virtual COM (32/64 bit) (see <a href="#">paragraph 6.7</a> )	
Linux	CUPS Driver (32/64 bit)	Follow the instruction get back on the "Readme.txt" file. You can find it in the software package downloaded in advance.
Android	SDK for Custom Android API	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 Custom iOS Api	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.

# 5 OPERATION

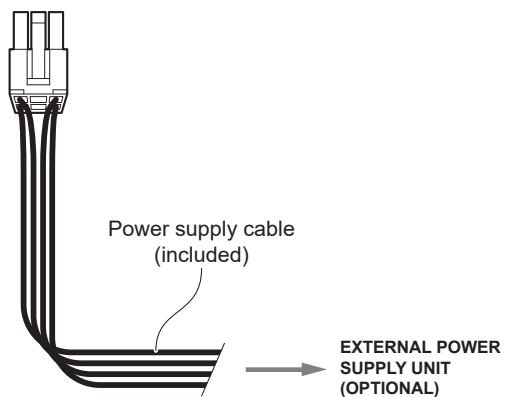
## 5.1 Adjusting paper width

Paper width may be adjusted from 210 mm to 216 mm by moving the adjustable cursors as shown in the following figure.



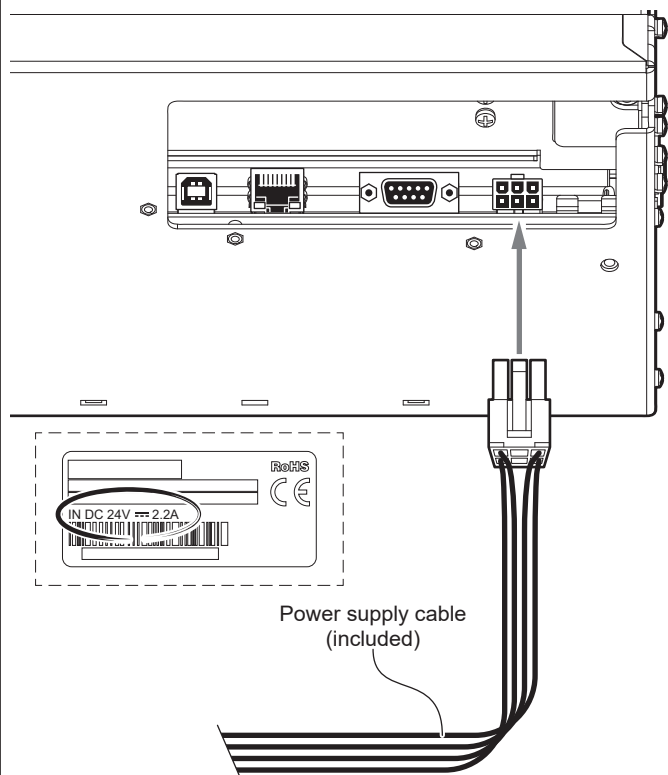
## 5.2 Switch the device on

1



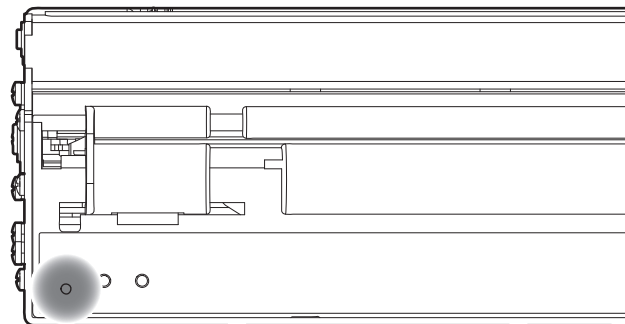
Connect the power supply cable to an external power supply unit.

2



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

3

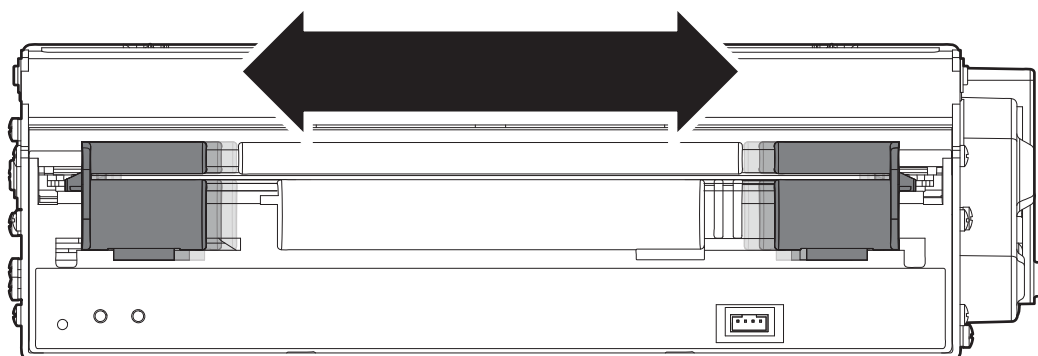


The green LED turns on and the device is ready.

## 5.3 Loading the paper roll

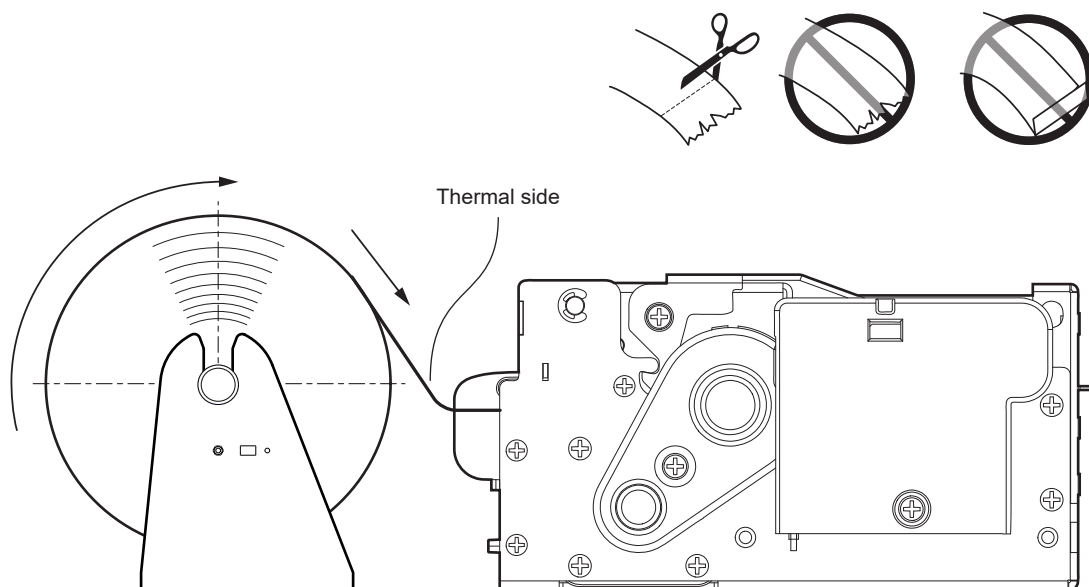
To change the paper proceed as follows. At every change of paper, check inside the device to locate and remove any scraps of paper.

1



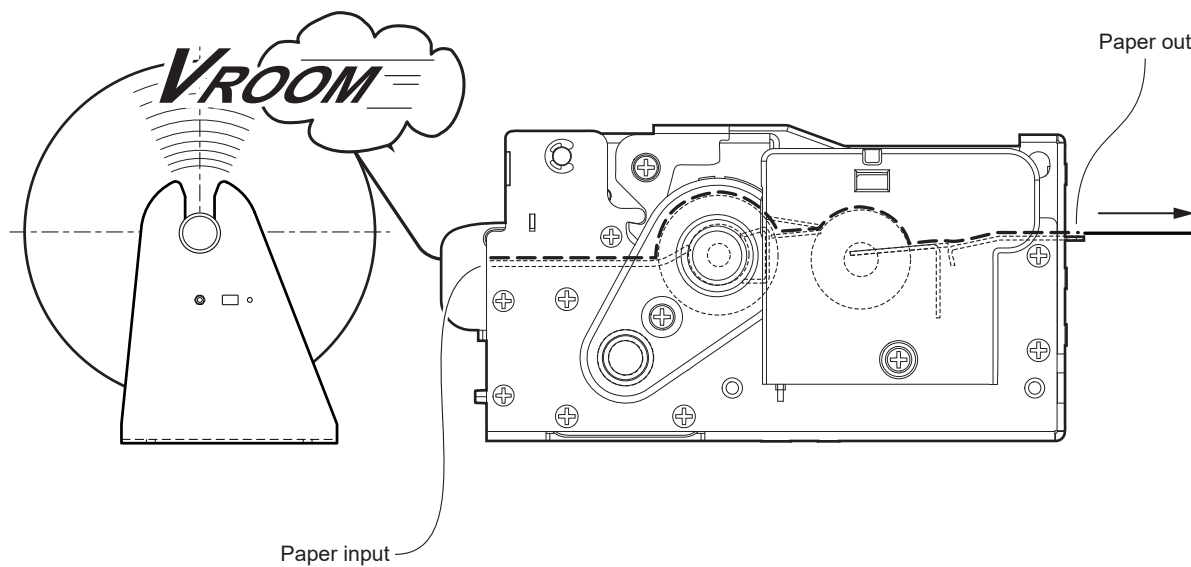
Adjust the paper width (see [paragraph 5.1](#)).

2



Place the paper roll, so that it unrolls in the direction shown in figure.

3



Insert the paper into the paper input opening and wait until the paper is automatically loaded and cut.

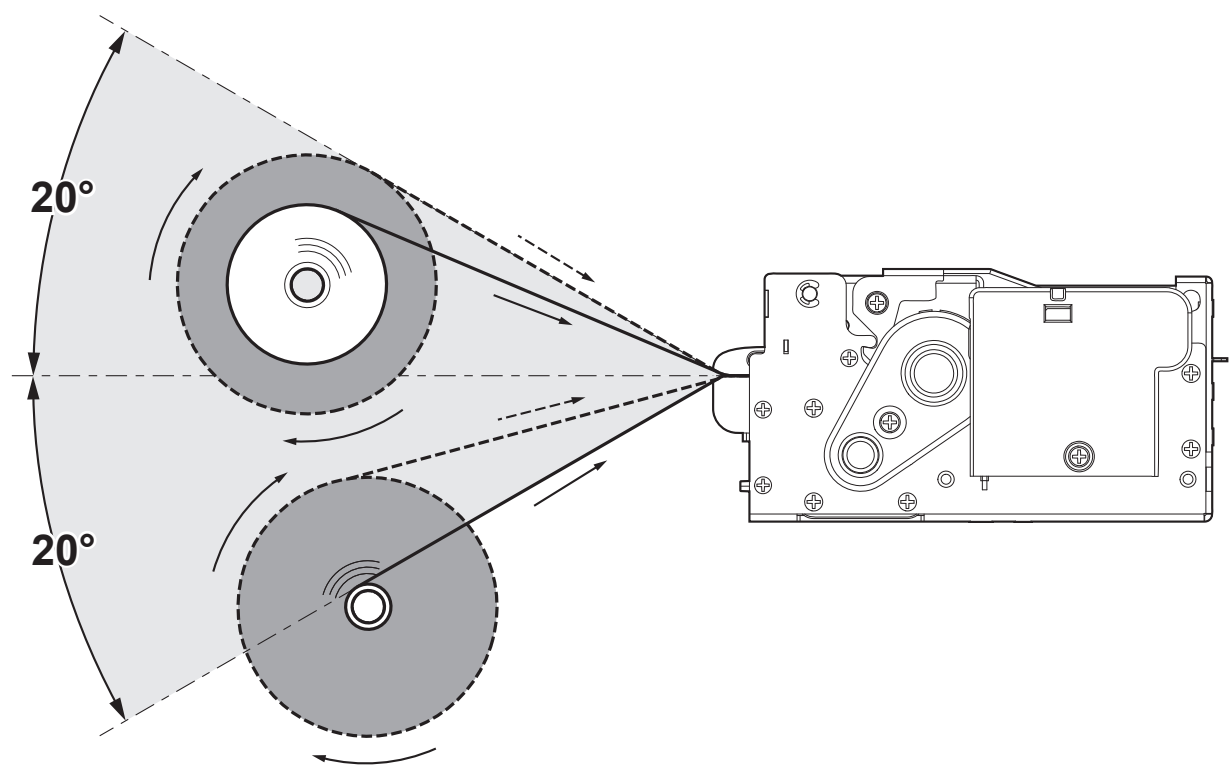
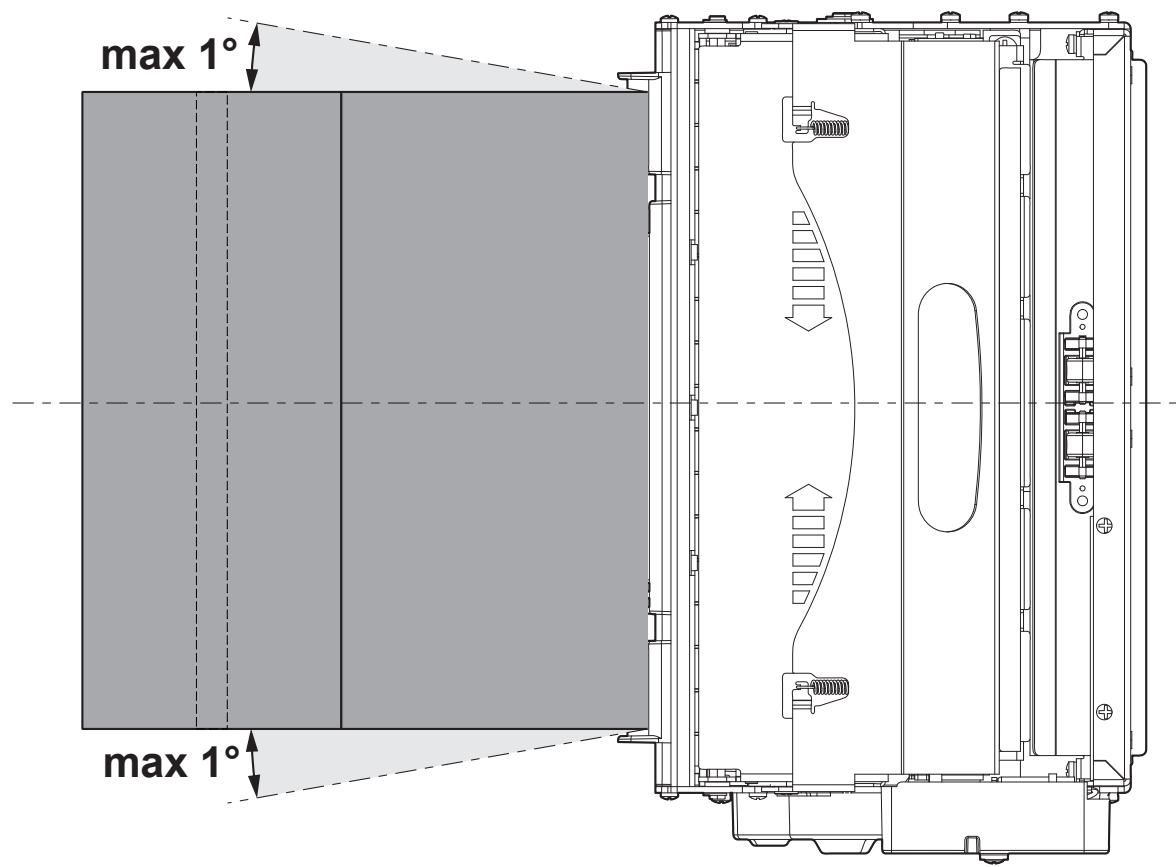


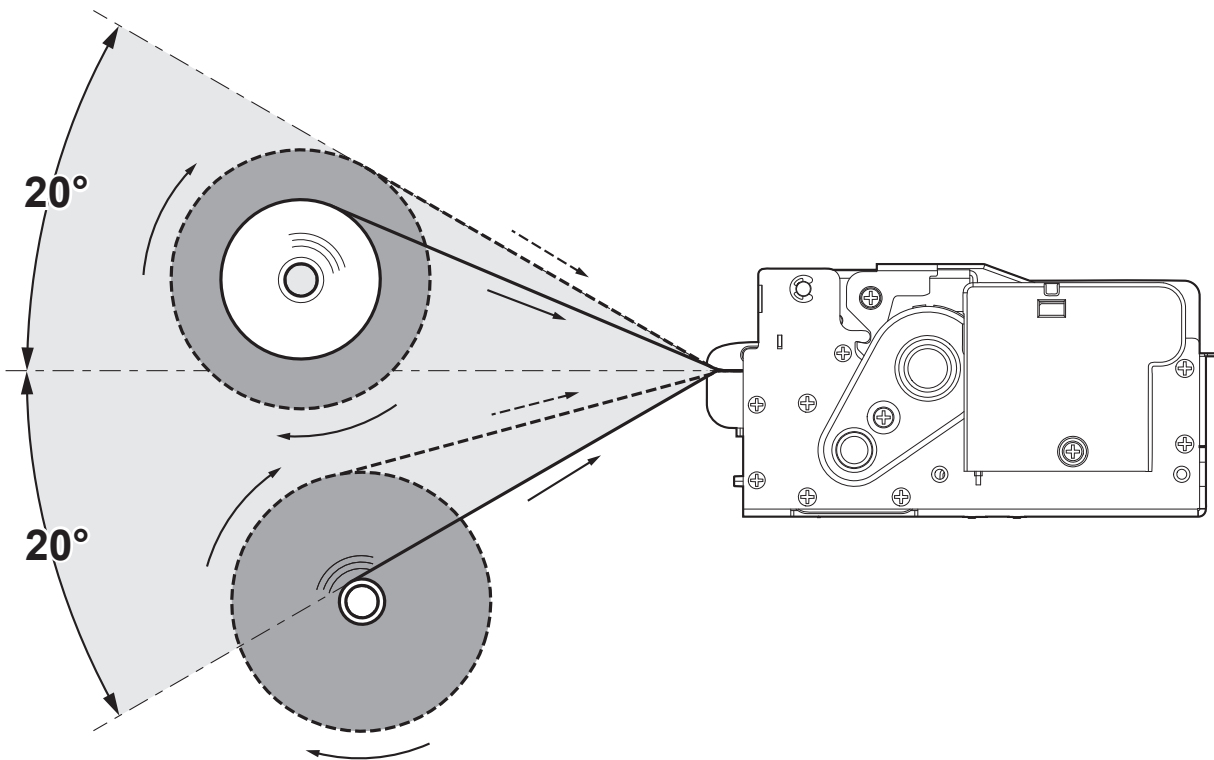
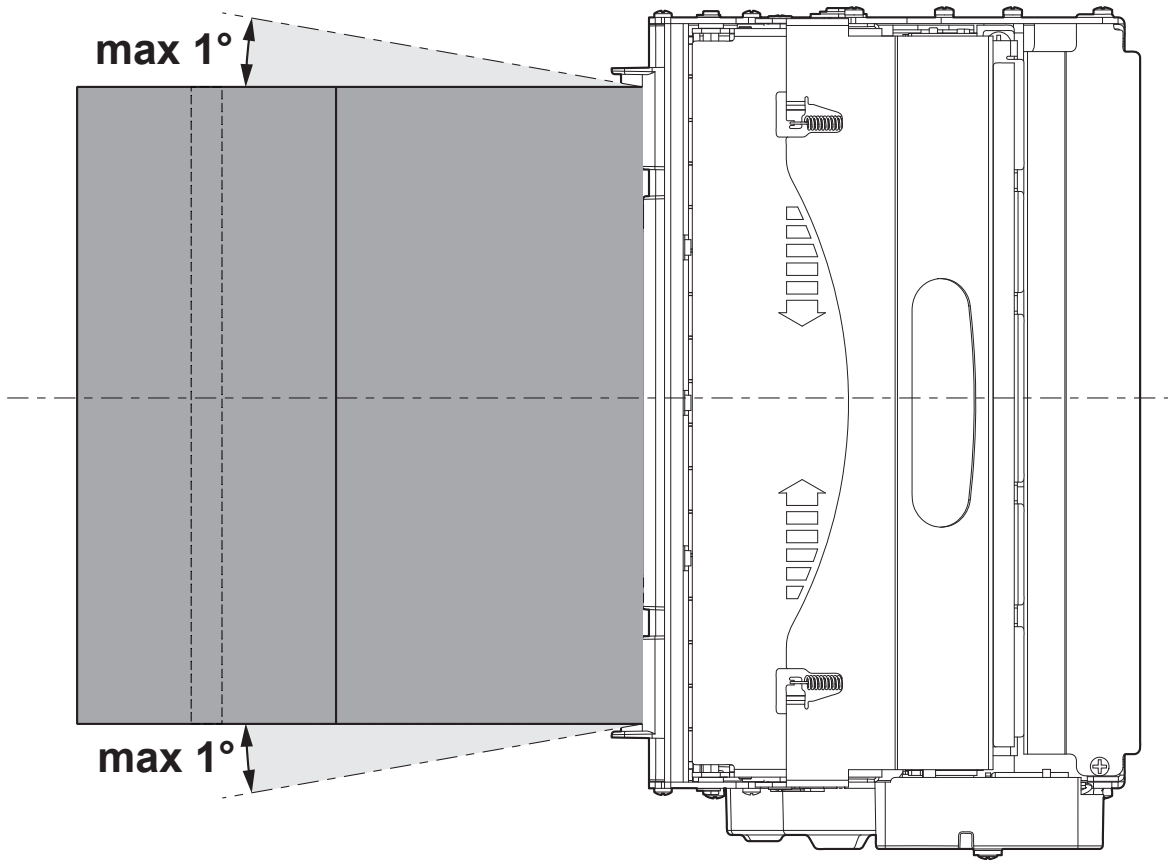


The following figures give the limit positions of the paper roll related to the device for a correct paper loading without a paper roll holder support.

The direction of the paper will always form a maximum angle of  $20^\circ$  or  $-20^\circ$  with the insertion plane of paper inside the device.

**KM216HIII e200**



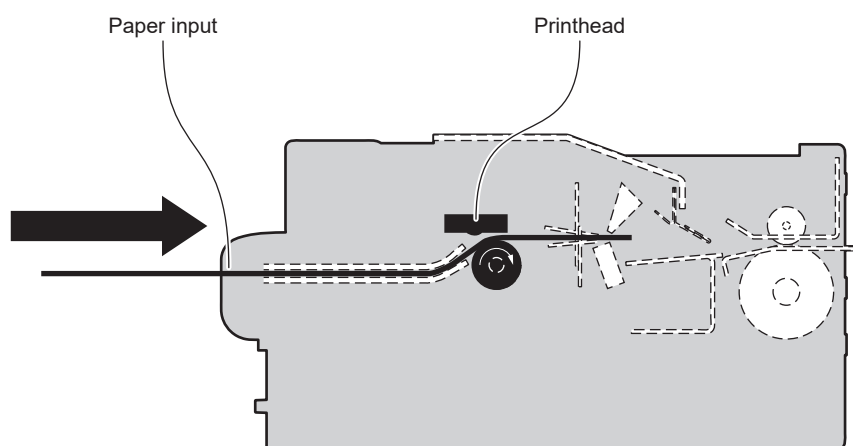


## 5.4 Issuing ticket

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 (see [chapter 6](#) and commands manual of the device).

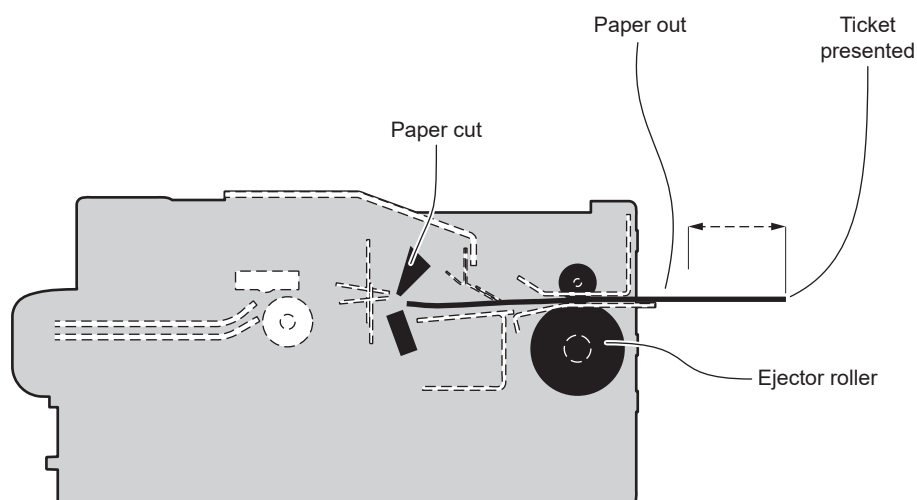
### “PRESENT” mode (KM216HIII e200)

1



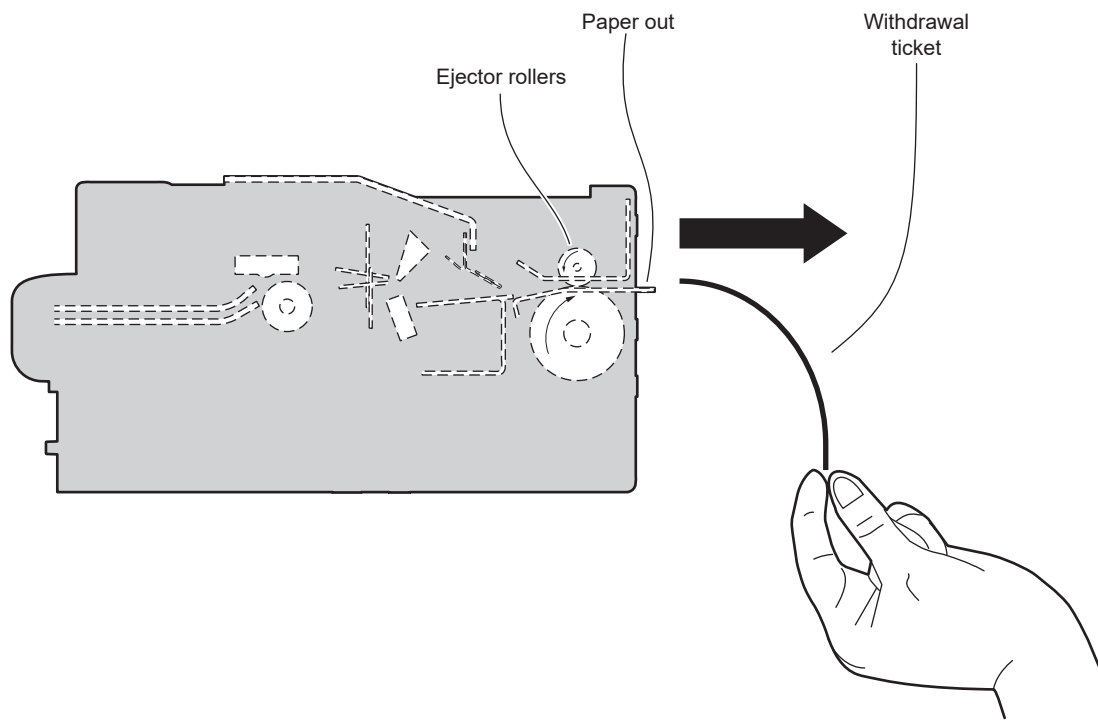
The device starts the ticket printing.

2



When printing ends, the device cuts the ticket and presents a portion of the ticket printed on the paper mouth.

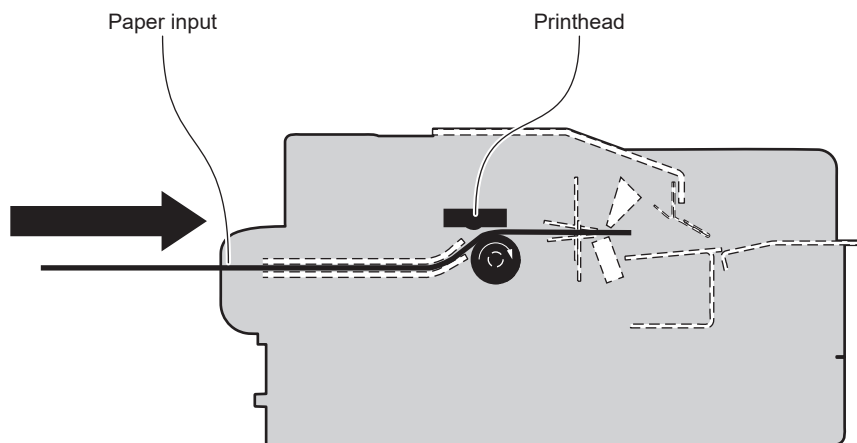
3



The user withdraw the ticket from the paper mouth.

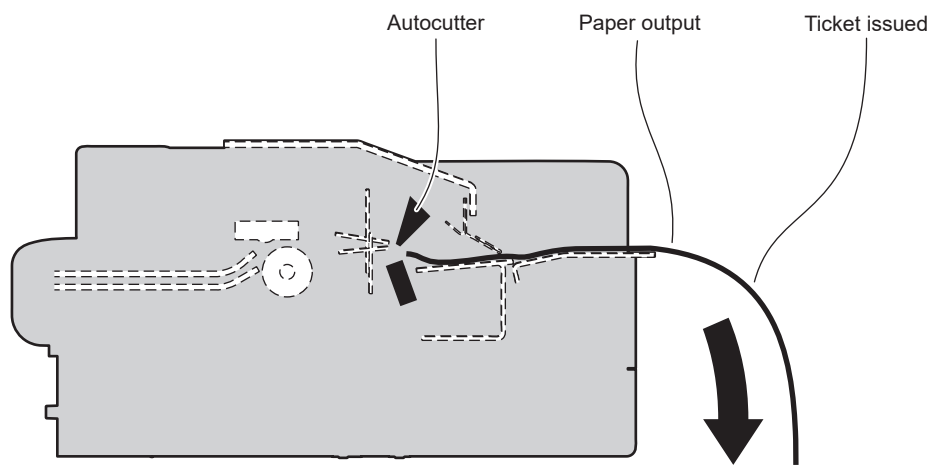
**Standard mode (KM216HIII c200)**

1



The device starts the ticket printing.

2



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

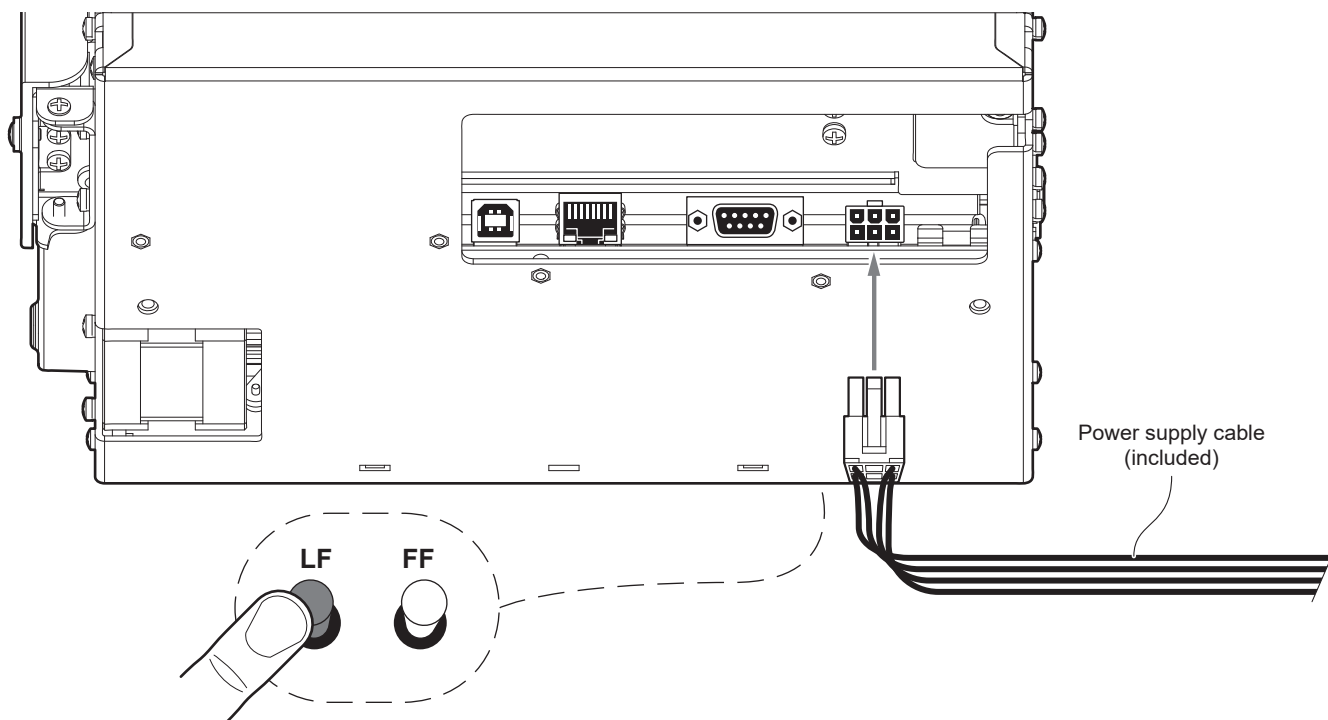


# 6 CONFIGURATION

## 6.1 Configuration by keys

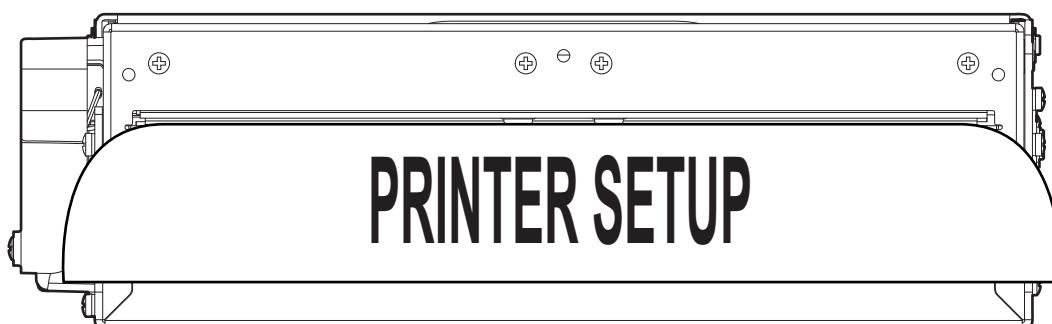
To enter the configuration mode and print a setup report with the operating parameters of the device, proceed as follows.

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. Follow the instruction printed on the paper to proceed with configuration procedure.



**KM216HIII e200**

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

DEVICE NAME AND FIRMWARE MODULES RELEASE	}	<pre>           &lt;device name&gt; SCODE. &lt;code&gt;           - rel 1.00 DCODE. &lt;code&gt;           - rel 1.00 FCODE. &lt;code&gt;           - rel 1.00         </pre>
PRINTHEAD STATUS	}	<p><b>PRINTER SETTINGS</b></p> <p>1 «*****» 1728</p> <hr/> <p>PRINTHEAD WORKING GOOD!</p>
DEVICE STATUS	}	<pre> PRINTER TYPE .....&lt;device model&gt; PRINTING HEAD TYPE.....&lt;head model&gt; INTERFACE .....RS232 ETHERNET TYPE.....10/100Base-TX PROGRAM MEMORY TEST.....OK DYNAMIC RAM TEST.....OK EXTERNAL MEMORY TEST .....OK CUTTER TEST.....OK HEAD VOLTAGE           [V] = 24.00 HEAD TEMPERATURE      [°C] = 26 POWER ON COUNTER      = 29 PAPER PRINTED         [cm] = 2850 CUT COUNTER           = 10         </pre>
PARAMETERS FOR DEVICE CONFIGURATION	}	<pre> [Network configuration] DHCP Client .....: Disabled TCP Printer Port .....: 9100  IP Address .....: 10. 10. 54. 26 Subnet Mask .....: 255. 255. 240. 0 Default Gateway .....: 10. 10. 54. 254  [Ethernet] MAC Address .....: 00-0E-E2-FA-B1-00  RS232 Baud Rate .....: 115200 bps RS232 Data Length.....: 8 bits/chr RS232 Parity.....: None RS232 Handshaking .....: Hardware Busy Condition .....: RxFull USB Address Number .....: 0 USB Class .....: Printer Print Mode .....: Normal Autofeed .....: CR Disabled Code Table [num] .....: 00 Font Type.....: International Chars / inch .....: A=15 B=20 cpi Speed / Quality.....: Normal Print Width .....: 200 mm Paper Recovery.....: Default Paper Threshold.....: 40% Black Mark.....: Enabled Black Mark Threshold.....: 40% Black Mark Distance [mm].....: +00.0 PaperEnd Buffer Clear .....: Disabled PrintHead Test PowerOn.....: Disabled Automatic Eject .....: Disabled Print Density.....: 0%         </pre>
KEYS FUNCTIONS	}	<pre> [ LF ]           enter Printer Setup [ LF + FF ]     skip Setup         </pre>





## KM216HIII c200

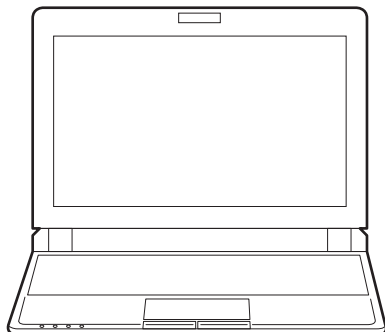
The following figure shows the setup report of the device. The shown values for parameters are sample values; for the list and the description of device parameters see the following paragraphs.

DEVICE NAME AND FIRMWARE MODULES RELEASE	}	<div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: fit-content;"> <p>&lt;device name&gt;</p> <p>SCODE. &lt;code&gt; - rel 1.00</p> <p>DCODE. &lt;code&gt; - rel 1.00</p> <p>FCODE. &lt;code&gt; - rel 1.00</p> </div>
PRINthead STATUS	}	<h3>PRINTER SETTINGS</h3> <p>1 «.....» 1728</p> <hr/> <p>PRINthead WORKING GOOD!</p>
DEVICE STATUS	}	<p>PRINter TYPE .....&lt;device model&gt;</p> <p>PRINting HEAD TYPE .....&lt;head model&gt;</p> <p>INterFACE .....RS232</p> <p>ETHERNET TYPE .....10/100Base-TX</p> <p>PROGRAM MEMORY TEST.....OK</p> <p>DYNAMIC RAM TEST.....OK</p> <p>EXTERNAL MEMORY TEST .....OK</p> <p>CUTTER TEST.....OK</p> <p>HEAD VOLTAGE [V] = 24.00</p> <p>HEAD TEMPERATURE [°C] = 26</p> <p>POWER ON COUNTER = 29</p> <p>PAPER PRINTED [cm] = 2850</p> <p>CUT COUNTER = 10</p>
PARAMETERS FOR DEVICE CONFIGURATION	}	<p>[Network configuration]</p> <p>DHCP Client ..... : <b>Disabled</b></p> <p>TCP Printer Port ..... : <b>9100</b></p> <p>IP Address ..... : <b>10. 10. 54. 26</b></p> <p>Subnet Mask ..... : <b>255. 255. 240. 0</b></p> <p>Default Gateway ..... : <b>10. 10. 54. 254</b></p> <p>[Ethernet]</p> <p>MAC Address ..... : <b>00-0E-E2-FA-B1-00</b></p> <p>RS232 Baud Rate ..... : <b>115200 bps</b></p> <p>RS232 Data Length..... : <b>8 bits/chr</b></p> <p>RS232 Parity..... : <b>None</b></p> <p>RS232 Handshaking ..... : <b>Hardware</b></p> <p>Busy Condition ..... : <b>RxFull</b></p> <p>USB Address Number ..... : <b>0</b></p> <p>USB Class ..... : <b>Printer</b></p> <p>Print Mode ..... : <b>Normal</b></p> <p>Autofeed ..... : <b>CR Disabled</b></p> <p>Code Table [num] ..... : <b>00</b></p> <p>Font Type..... : <b>International</b></p> <p>Chars / inch ..... : <b>A=15 B=20 cpi</b></p> <p>Speed / Quality..... : <b>Normal</b></p> <p>Print Width..... : <b>200 mm</b></p> <p>Paper Threshold ..... : <b>40%</b></p> <p>Black Mark..... : <b>Enabled</b></p> <p>Black Mark Threshold..... : <b>40%</b></p> <p>Black Mark Distance [mm]..... : <b>+00.0</b></p> <p>PaperEnd Buffer Clear ..... : <b>Disabled</b></p> <p>PrintHead Test PowerOn..... : <b>Disabled</b></p> <p>Print Density..... : <b>0%</b></p>
KEYS FUNCTIONS	}	<p>[ LF ]        <i>enter Printer Setup</i></p> <p>[ LF + FF ]    <i>skip Setup</i></p>

## 6.2 Configuration by software

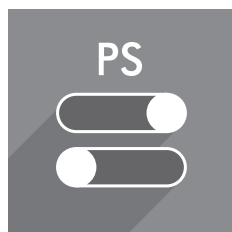
The setup parameters can be set by using the “PrinterSet” software tool available on [www.custom4u.it](http://www.custom4u.it). For a detailed description of the device operating parameters see the following paragraphs. To configure the device by software, proceed as follows:

1



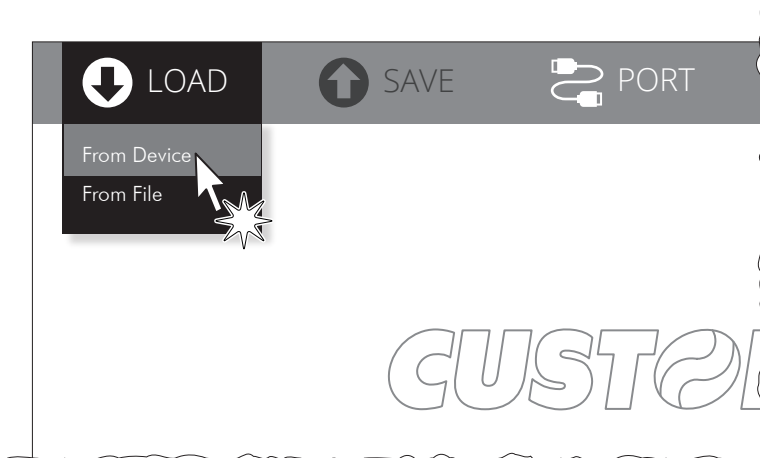
Connect the device to a PC directly (see [paragraph 4.5](#)), without using HUB devices.

2



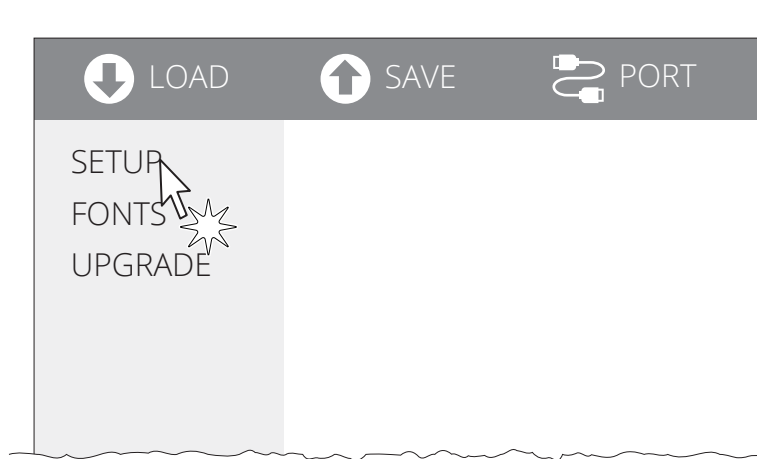
Start “PrinterSet” software tool.

3



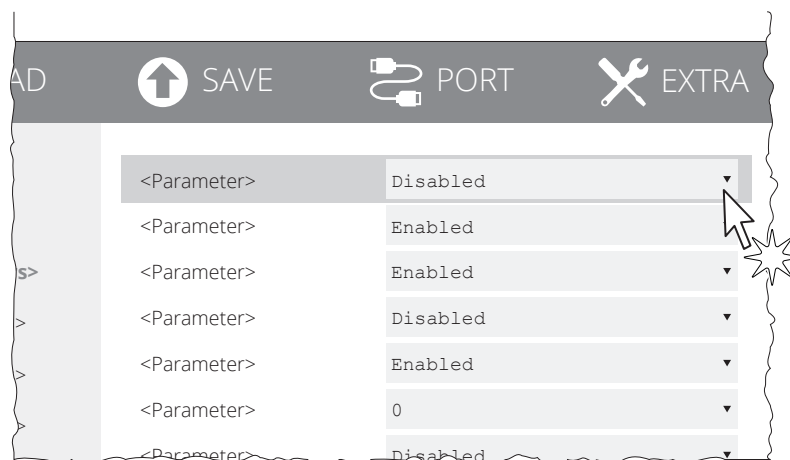
Click on LOAD > FROM DEVICE and select the device connected to the PC.

4



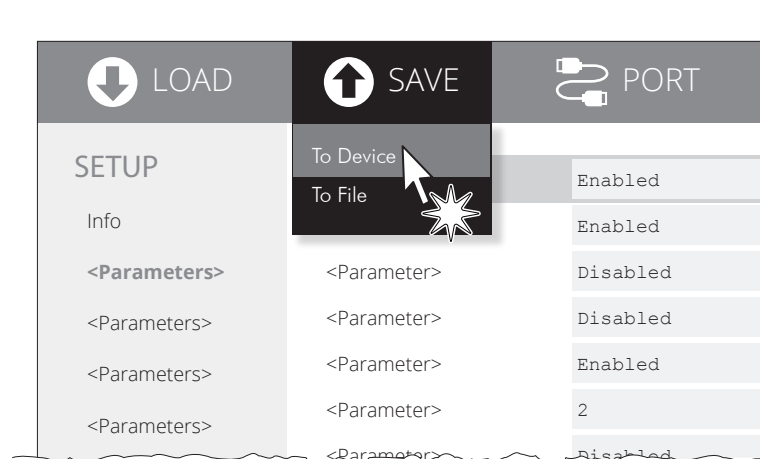
Cliccare su SETUP per accedere ai parametri di funzionamento del dispositivo da configurare.

5



Eseguire le modifiche desiderate ai parametri di funzionamento del dispositivo.

6



Cliccare su SAVE > To Device per rendere effettive le modifiche effettuate.

**ATTENTION:**

During saving, it is strongly discouraged to disconnect the communication cable or to remove the power supply of the PC or the device.

## 6.3 Configuration by file

The setup parameters can be set by editing the "Setup.ini" file stored on the Flash Drive of the device.  
Proceed as follows:

1



**Enter  
setup**

Enter the configuration procedure  
by keys (see [paragraph 6.1](#))  
or by software (see [paragraph 6.2](#)).

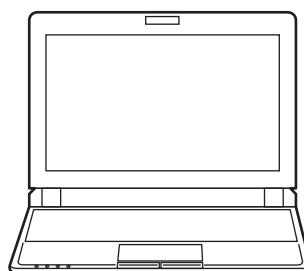
2

```
<parameter> ..... : <value>
<parameter> ..... : <value>
<parameter> ..... : <value>
<parameter> ..... : <value>
<parameter> ..... : <value>
USB Class ..... : Mass Storage
<parameter> ..... : <value>
<parameter> ..... : <value>
<parameter> ..... : <value>
<parameter> ..... : <value>
```

Check that the "USB Class" parameter  
is set to "Mass Storage".  
Otherwise, this configuration mode  
is not available.

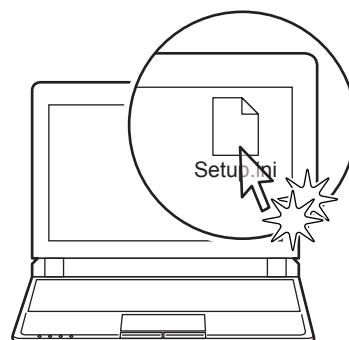
3

USB



Plug the device to a Personal Computer  
via USB.

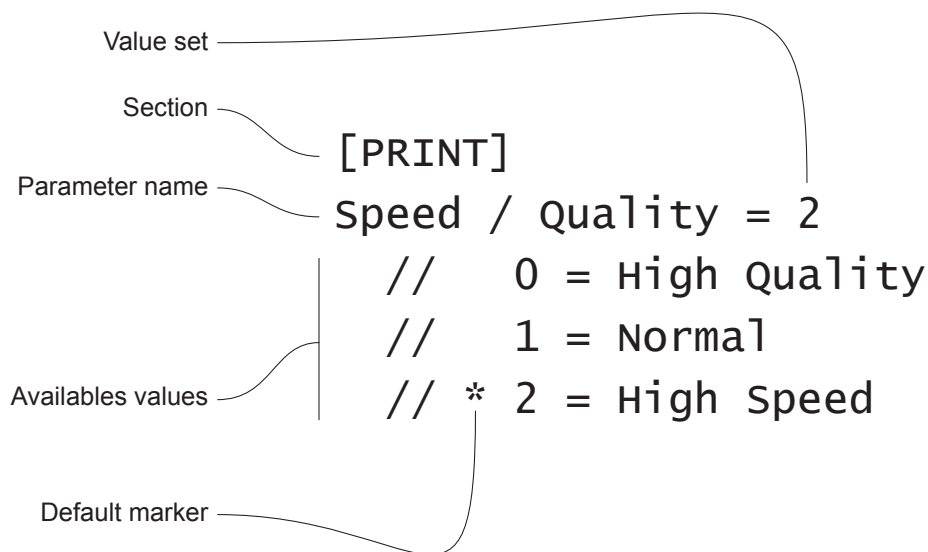
4



Enter the Flash drive of the device  
and edit the "Setup.ini" file.



The “Setup.ini” file is a configuration file that contains all the configurable parameters listed in text format and divided into some sections (indicated between square brackets). For each parameter, you find the parameter name followed by the value currently set and then the available values listed with a reference number. The reference number marked with the symbol ‘ \* ’ is the default one (see figure).



To modify the parameter, change the numeric value after the parameter name or use the default value by typing “D”. After editing device’s parameter, simply save the “Setup.ini” file to make the modifies activated. For a detailed description of the device operating parameters see the following paragraphs.

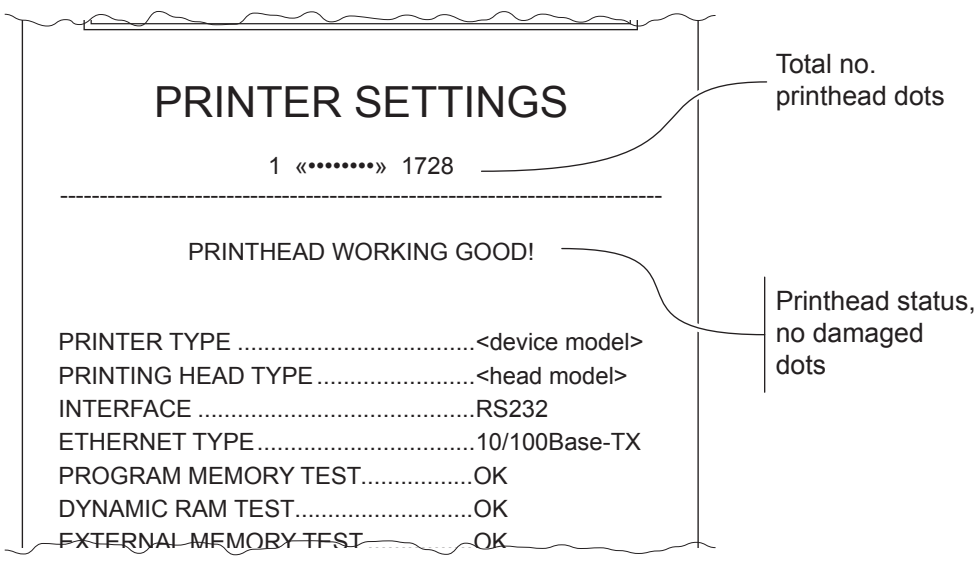
**ATTENTION:**

The change of value for the “USB Class” parameter may compromise the access to the Setup.ini file. Be careful to keep the “Mass Storage” value to allow a new access to the Flash Drive.

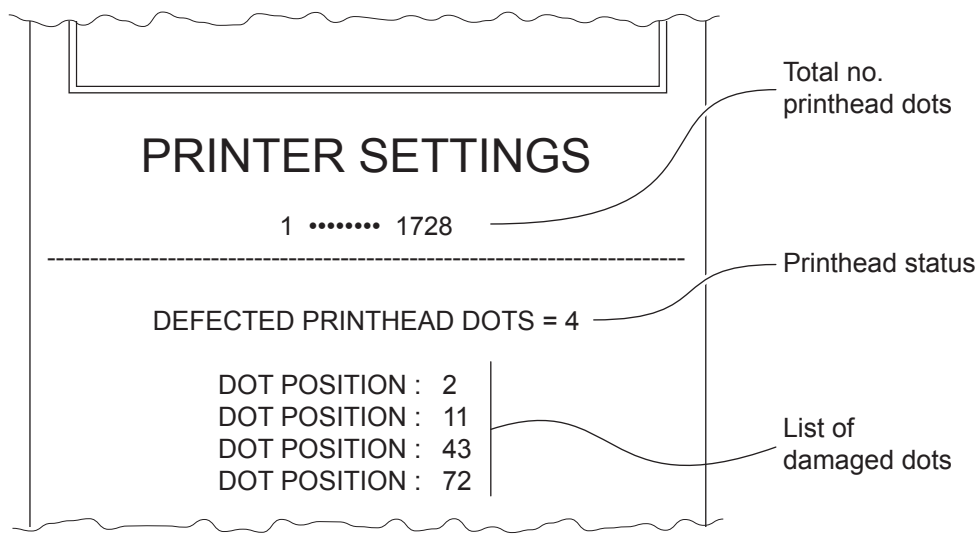


# 6.4 Printhead status

The device performs the printhead operating status when printing the setup report. The total number of dots is reported. Are indicated the total dots number of the printhead and their status (see figure below).



In case of damaged dots, these are listed in the print out in according to their position on the heating line (see figure below).





## 6.5 Device 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:

<b>PRINTER TYPE</b>	device model
<b>PRINTING HEAD TYPE</b>	print head model
<b>INTERFACE</b>	interface present
<b>ETHERNET TYPE</b>	Ethernet connection type
<b>PROGRAM MEMORY TEST</b>	OK appears if functioning and NOT OK if faulty
<b>DYNAMIC RAM TEST</b>	OK appears if functioning and NOT OK if faulty
<b>EXTERNAL MEMORY TEST</b>	OK appears if functioning and NOT OK if faulty
<b>CUTTER TEST</b>	OK appears if functioning and NOT OK if faulty
<b>HEAD VOLTAGE</b>	voltage of the head
<b>HEAD TEMPERATURE</b>	temperature of the head
<b>POWER ON COUNTER</b>	number of power-ups made
<b>PAPER PRINTED</b>	centimetres of paper printed
<b>CUT COUNTER</b>	number of cuts made



## 6.6 Communication parameters

The device allows the configuration of the parameters listed in the following table. The parameters marked with the symbol <sup>Ⓓ</sup> are the default values. Settings remain active even after the device has been turned off and they are stored in non-volatile memory.

<b>RS232 BAUD RATE</b>	Communication speed of the serial interface:  9600                    57600 19200                   115200 <sup>Ⓓ</sup> 38400  This parameter is valid only with serial interface.
<b>RS232 DATA LENGTH</b>	Number of bit used for characters encoding:  7 bits/car 8 bits/car <sup>Ⓓ</sup>  This parameter is valid only with serial interface.
<b>RS232 PARITY</b>	Bit for the parity control of the serial interface:  None <sup>Ⓓ</sup> =            parity bit omitted Even =                even value for parity bit Odd =                  odd value for parity bit  This parameter is valid only with serial interface.
<b>RS232 HANDSHAKING</b>	Handshaking:  XON/XOFF =    software handshaking Hardware <sup>Ⓓ</sup> =    hardware handshaking (CTS/RTS)  This parameter is valid only with serial interface. When the receive buffer is full, if handshaking is set to XON/XOFF, the device sends the XOFF (0x13) on the serial port. When the receive buffer has cleared once again, if handshaking is set to XON/XOFF, the device sends the XON (0x11) on the serial port.
<b>BUSY CONDITION</b>	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 <sup>Ⓓ</sup> =            Busy signal is activated when the buffer is full  This parameter is valid only with serial interface.
<b>USB ADDRESS NUMBER</b>	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 <sup>Ⓓ</sup> 2        4        6        8 1        3        5        7        9





---

<b>USB CLASS</b>	USB communication class definition.  Printer <sup>D</sup> = setting the printer function Mass Storage = setting the sharing mode from Mass Storage Virtual COM = setting the USB port as a virtual serial port
<b>DHCP CLIENT</b>	Setting of the DHCP protocol:  Disabled <sup>D</sup> = protocol disabled Enabled = protocol enabled
<b>IP ADDRESS</b>	IP address of device; this parameter is assigned by the network administrator. It can be modified by software (see <a href="#">paragraph 6.2</a> ) and by file (see <a href="#">paragraph 6.3</a> ).
<b>SUBNET MASK</b>	This parameter identifies the local network address. It can be modified by software (see <a href="#">paragraph 6.2</a> ) and by file (see <a href="#">paragraph 6.3</a> ).
<b>DEFAULT GATEWAY</b>	This parameter identifies the Gateway IP address used to send applications to the external network. It can be modified by software (see <a href="#">paragraph 6.2</a> ) and by file (see <a href="#">paragraph 6.3</a> ).
<b>TCP PRINTER PORT</b>	This parameter sets the TCP port number. It can be modified by software (see <a href="#">paragraph 6.2</a> ) and by file (see <a href="#">paragraph 6.3</a> ).
<b>MAC ADDRESS ETHERNET</b>	This is the number, provided by the constructor, that identifies the device; this number is univocal and it can't be modified.

---



## 6.7 Operating parameters

The device allows the configuration of the parameters listed in the following table.

The parameters marked with the symbol <sup>Ⓓ</sup> are the default values.

Settings remain active even after the device has been turned off and they are stored in non-volatile memory.

---

<b>PRINT MODE</b>	Printing mode:  Normal <sup>Ⓓ</sup> = enables printing in normal writing way Reverse = enables printing rotated 180 degrees
-------------------	--

---

<b>AUTOFEED</b>	Setting of the Carriage Return character:  CR disabled <sup>Ⓓ</sup> = Carriage Return disabled CR enabled = Carriage Return enabled
-----------------	--

---

<b>CHARS / INCH</b>	Font selection (CPI = Characters Per Inch):  A = 11 cpi, B = 15 cpi A = 15 cpi, B = 20 cpi <sup>Ⓓ</sup> A = 20 cpi, B = 15 cpi
---------------------	--

---

<b>CODE TABLE</b>	Identifier number of the character code table to use.  See <a href="#">paragraph 9.8</a> to learn about the character tables corresponding to the identification numbers set with this parameter. The character tables set with this parameter are the same set with the command 0x1B 0x74 (refer to the commands manual of the device).
-------------------	---

---

<b>FONT TYPE</b>	Setting the font type:  <b><u>KM216HIII e200</u></b>  International <sup>Ⓓ</sup> = Enables the use of the 256 characters font tables Chinese GB18030 = Enables the use of the chinese extended font GB18030-2000 Korean CP949 = Enables the use of the korean font CP949  <b><u>KM216HIII c200</u></b>  International = Enables the use of the 256 characters font tables Chinese GB18030 <sup>Ⓓ</sup> = Enables the use of the chinese extended font GB18030-2000 Korean CP949 = Enables the use of the korean font CP949  When the “International” font is enabled, you need to choose the character code table (parameter “Code Table”). When the Chinese font is enabled, the selection of the character code table is suspended (parameter “Code Table”).
------------------	--

---

<b>SPEED / QUALITY</b>	Setting of printing speed and printing quality:  Normal <sup>Ⓓ</sup> High Quality High Speed
------------------------	--

---



---

<b>PRINT WIDTH</b>	Width of printing area:			
	172 mm	180 mm	188 mm	196 mm
	174 mm	182 mm	190 mm	198 mm
	176 mm	184 mm	192 mm	200 mm <sup>D</sup>
	178 mm	186 mm	194 mm	216 mm

---

**PAPER RECOVERY** **KM216HIII e200**

Setting the automatic retraction function of the last printed ticket and presented to enable the default margins upper and lower

Default <sup>D</sup> = the "recovery" function leaves a margin of 4 mm  
Max = the "recovery" function leaves a margin of 1 mm

---

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

30% 70%  
40% <sup>D</sup> 80%  
50% 90%  
60%

---

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

Disabled <sup>D</sup> = 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.

---

**PRINTHEAD TEST POWERON** Setting of the performing of the print head test:

Disabled <sup>D</sup> = the test is performed only during the printing of the setup report  
Enabled = the test is performed at each power on

---

**AUTOMATIC EJECT** **KM216HIII e200**

Setting of the automatic ejection function of the last printed ticket after cutting:

Disabled <sup>D</sup> = ejection function disabled  
Enabled = ejection function enabled

---

**PRINT DENSITY** Adjusting the printing density:

-25% 0 <sup>D</sup> +25%  
-12% +12%

The print quality is strongly influenced by the type of chemical treatment and the type of storage to which the thermal paper has been subjected, as well as by the weight of the same. It may therefore necessary to act on this parameter to obtain the desired print quality.

---



## 6.8 Alignment parameters

The device allows the configuration of the parameters listed in the following table.

The parameters marked with the symbol <sup>D</sup> are the default values.

Settings remain active even after the device has been turned off and they are stored in non-volatile memory.

---

<b>BLACK MARK</b>	Alignment management:
	Disabled <sup>D</sup> = the black mark alignment is not performed
	Enabled = the black mark alignment is performed

---

<b>BLACK MARK THRESHOLD</b>	Threshold value (in percent) for the recognition of the presence of black mark by the black mark sensor:
	30%    50%    70%    90%
	40% <sup>D</sup> 60%    80%
	If the "Black Mark" parameter is disabled, this parameter is not printed.

---

<b>BLACK MARK DISTANCE</b>	"Black Mark Distance" is the minimum distance (expressed in millimetres) between the upper edge of ticket and the black mark (see <a href="#">chapter 7</a> ).
	If the "Black Mark" parameter is disabled, this parameter is not printed.
	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, one for the decimal part and of the sign):

---

	Sign setting:
<b>BLACK MARK DISTANCE SIGN</b>	+ <sup>D</sup> = positive distance
	- = negative distance

---

<b>BLACK MARK DISTANCE [mm x 10]</b>	Setting the digit for tens:
	0 <sup>D</sup> 1    2

---

<b>BLACK MARK DISTANCE [mm x 1]</b>	Setting the digit for units:
	0 <sup>D</sup> 2    4    6    8
	1    3    5    7    9

---

<b>BLACK MARK DISTANCE [mm x .1]</b>	Setting the digit for decimals:
	0 <sup>D</sup> 2    4    6    8
	1    3    5    7    9

---

For example, to set the black mark distance to 15 mm, modify the parameters as follows:

Black Mark Distance sign	= +
Black Mark Distance [mm x 10]	= 1
Black Mark Distance [mm x 1]	= 5
Black Mark Distance [mm x .1]	= 0

Values for "Black Mark Distance [mm x 1]" > 5 can be set only if "Black Mark Distance [mm x 10]" = 0 or 1.



## 6.9 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 LINE 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:

```

                                HEXADECIMAL DUMP

31 32 33 34 35 ...      12345 ...
39 30 31 32 33 ...      90123 ...
37 38 39 75 69 ...      789ui ...
68 6B 6A 73 64 ...      hkjsd ...
73 64 66 6B 6A ...      sdfkj ...
66 73 64 66 6B ...      fsdfk ...
65 69 6F 79 75 ...      eioyu ...
6F 72 69 75 77 ...      oriuw ...
6F 75 77 65 72 ...      ouwer ...
77 65 72 69 6F ...      werio ...
72 69 6F 75 77 ...      riouw ...
6B 6C 73 64 66 ...      klsdf ...
64 66 6B 73 64 ...      dfksd ...
73 64 66 6B 6A ...      sdfkj ...
66 6B F2 6A 73 ...      fk>j ...
6A 6B 6C 68              jklh
```





# 7 ALIGNMENT

Device is provided with sensors for the use of alignment black mark in order to handle roll of tickets with pre-printed fields and a fixed length.

The alignment black mark may be formed by black mark printed on paper (see [paragraph 9.7](#)).

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 black mark 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.

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

To guarantee the alignment, you must enable the parameter “Black Mark” during the setup procedure (see [chapter 6](#)).

## 7.1 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 “Black Mark” parameter is set to a value other than “Disabled” (see [chapter 6](#)).

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

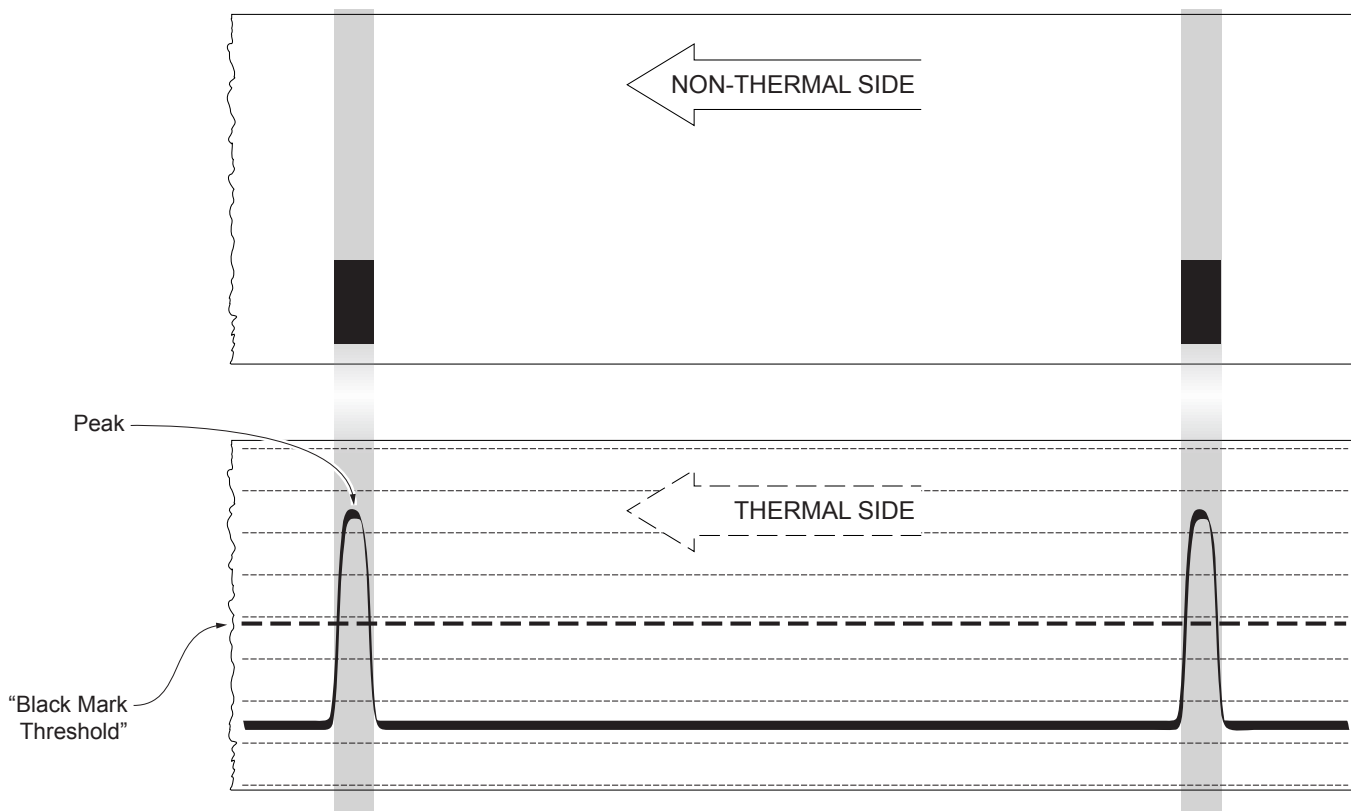
```
Autosetting black mark : OK
PWM Duty Cycle : 85.3%
```

The “Autosetting black mark” 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 “Black Mark Threshold” parameter which represents the detection threshold of the black mark.

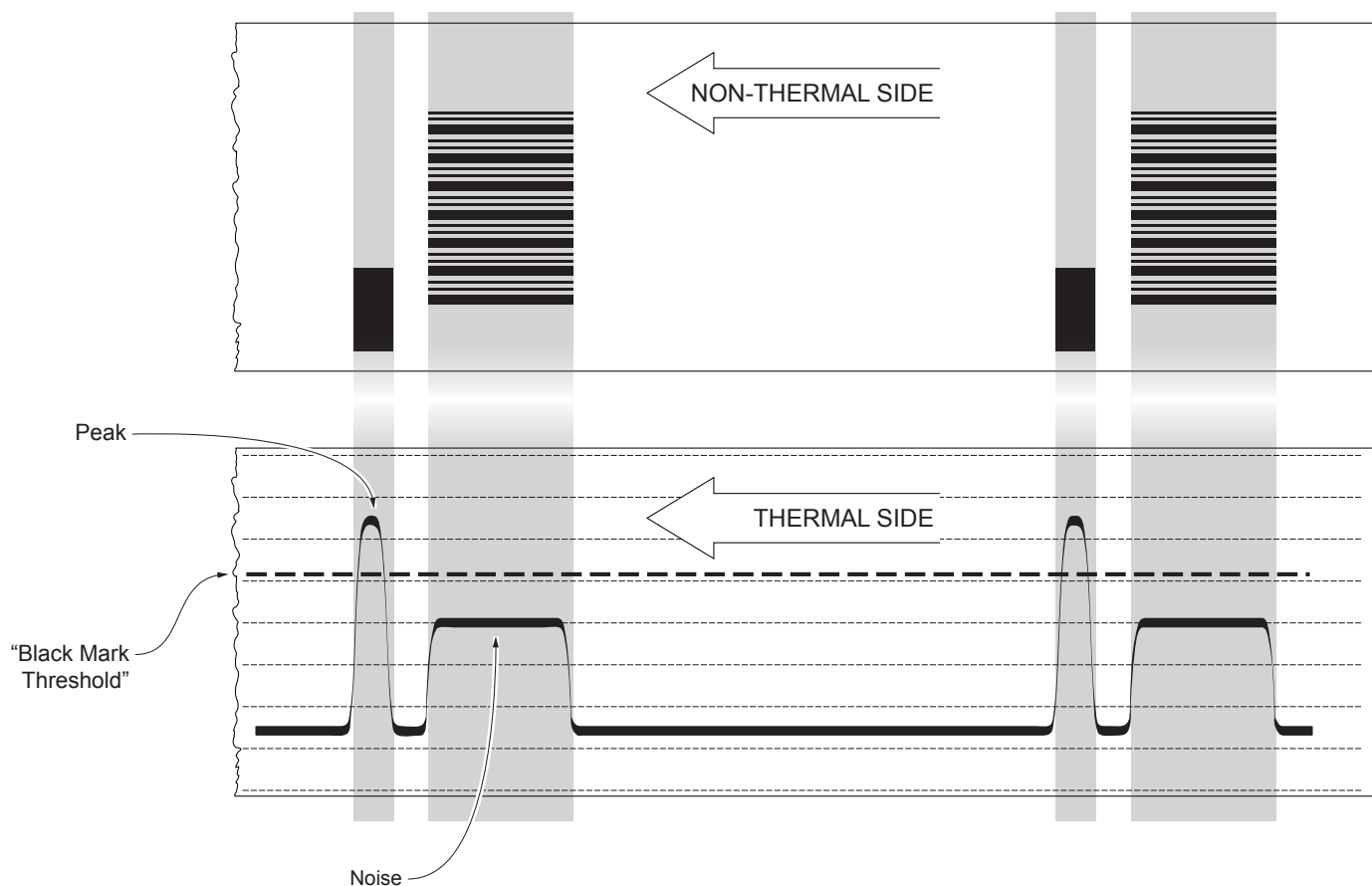
Choosing the “Yes” value for the “Characterize Paper” parameter, the device prints a graphic representation (see following figures) of the outgoing voltage of the alignment sensor (expressed as a percentage) and the “Black Mark Threshold” value. This graphic representation is useful to set the most suitable value to assign to the “Black 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 black marks and presents a peak at each black mark. In this case, the optimal value for the “Black Mark Threshold” parameter is placed about half of the peak.





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 black marks, presents a peak at each black mark and presents some “noise” at each barcode. In this case, the optimal value for the “Black Mark Threshold” parameter is located about halfway between the peak value and the maximum value of the “noise”.



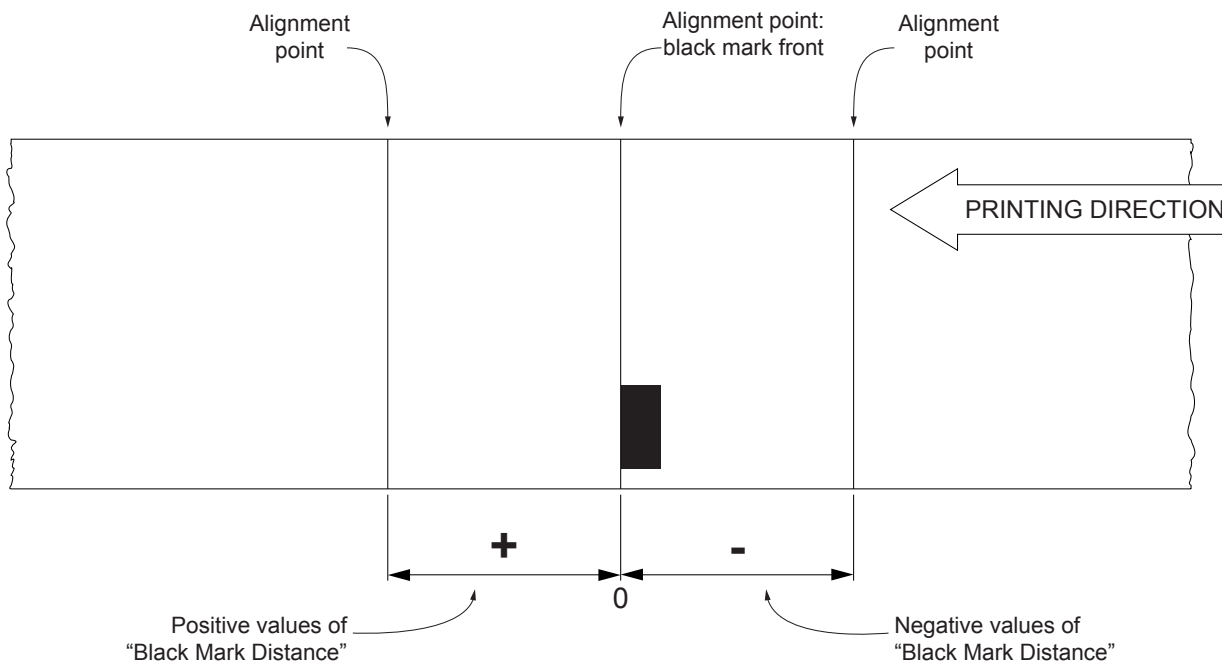
If the maximum value of “noise” read by the sensor is very close of the peak value, it might be difficult to place the value of the “Black Mark Threshold” at an intermediate point. In these cases, it is mandatory that the portion of paper between the point of printing end and the front of black mark 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 black mark.

## 7.2 Alignment parameters

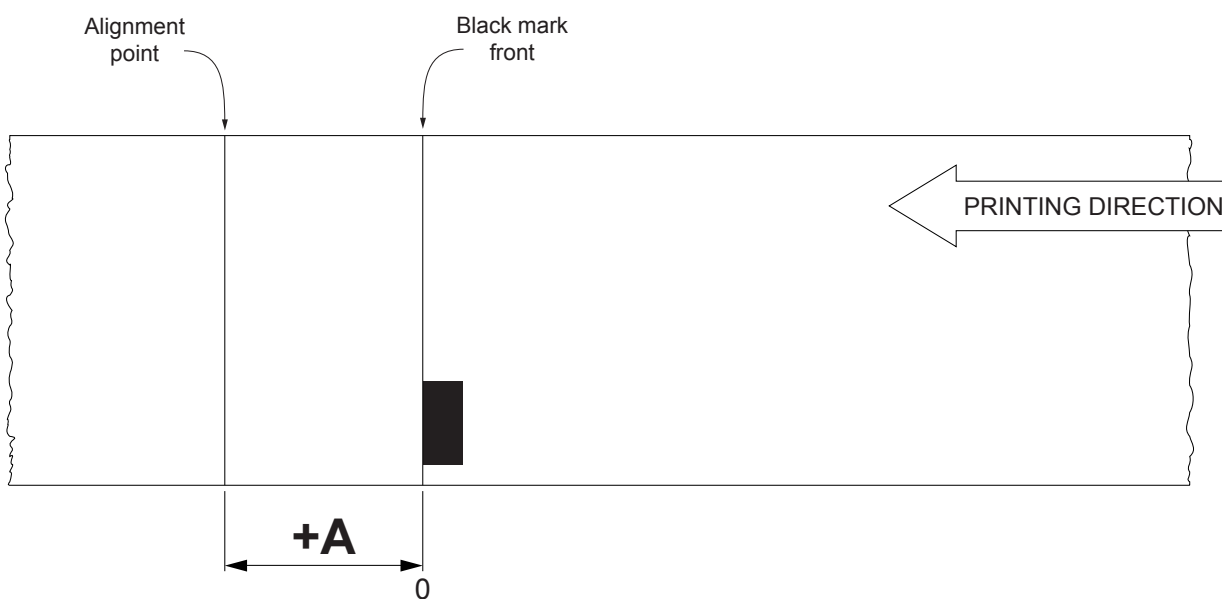
The “alignment point” is defined as the position inside the ticket to use for the black mark alignment. The distance between the black mark edge and the alignment point is defined as “Black Mark Distance”.

Referring to the front of the black mark, the value of “Black Mark Distance” value varies from -25 mm minimum and 25 mm maximum.

If the “Black Mark Distance” value is set to 0, the alignment point is set at the beginning of the black mark.

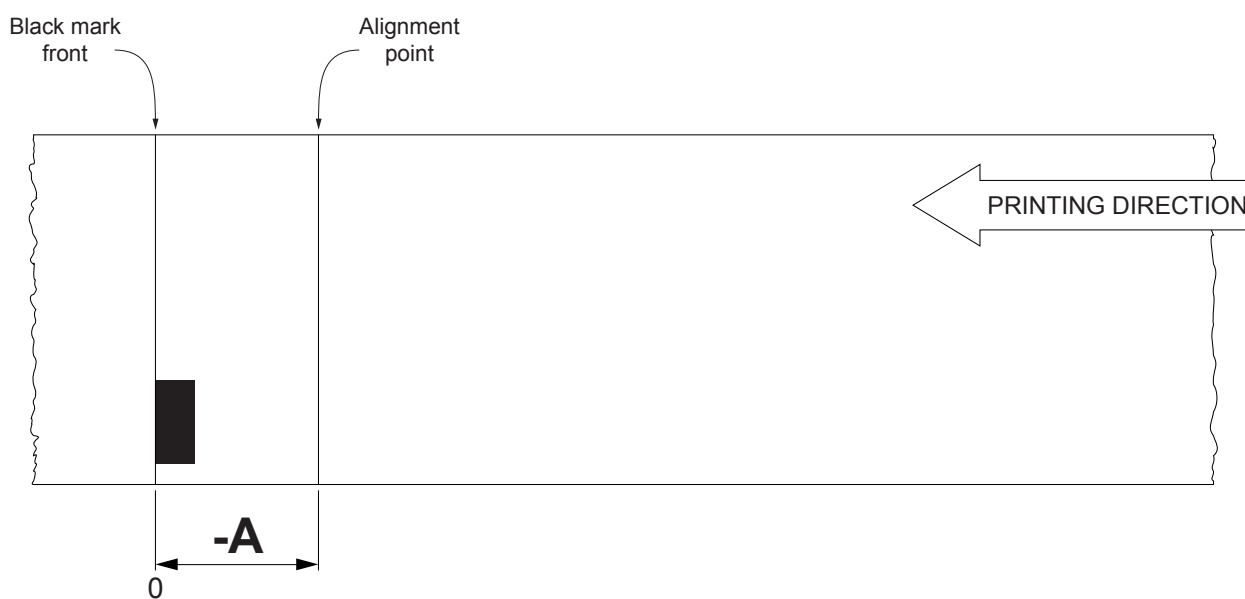


The following figure shows an example of paper with alignment point set by a positive value of “Black Mark Distance” (“Black Mark Distance” = + A):



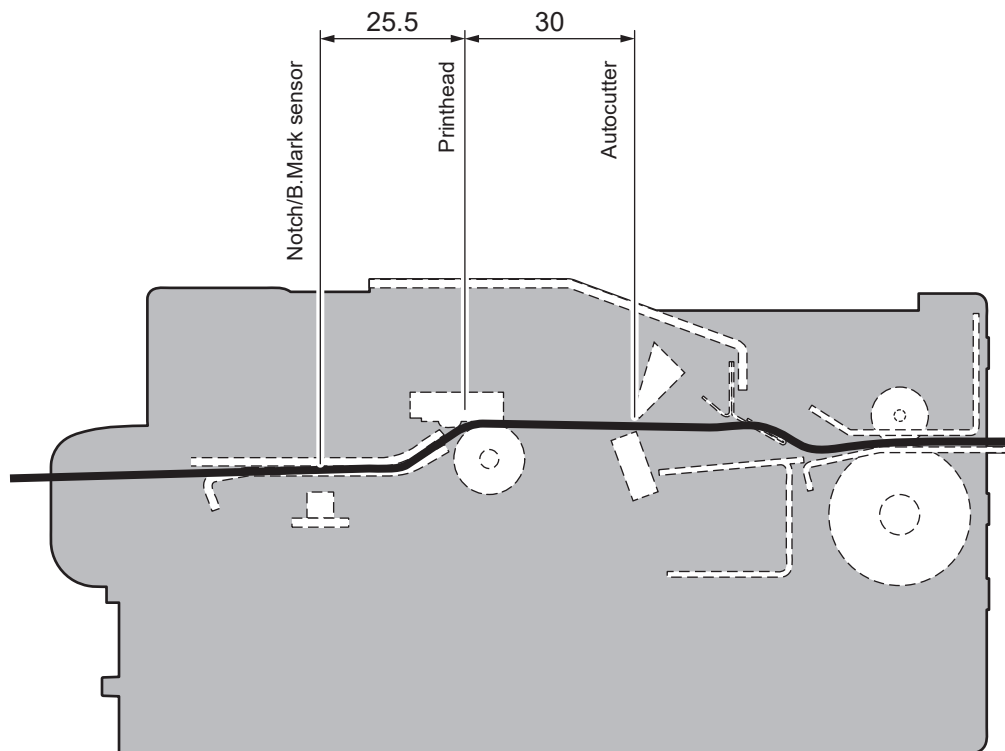


To set a negative value of the “Black Mark Distance” parameter is useful in cases where the alignment point refers to the black mark printed on the previous ticket or where the desired cutting line is placed in the middle of the alignment black mark (for example, for paper with holes or gap). In the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





The following figure shows a section of the device with the paper path and the distances (expressed in millimetres) between the alignment sensor, the printhead and the autocutter (cutting line).



### **CUSTOM/POS emulation**

To define the alignment point you need to set the printer parameters that compose the numerical value of the “Black Mark Distance” parameter. (see [paragraph 6.8](#)).

For example, to set a black mark distance of 15 mm between the black mark and the alignment point, the parameters must be set on the following values:

Black Mark Distance sign	: +
Black Mark Distance [mm x 10]	: 1
Black Mark Distance [mm x 1]	: 5
Black Mark Distance [mm x .1]	: 0

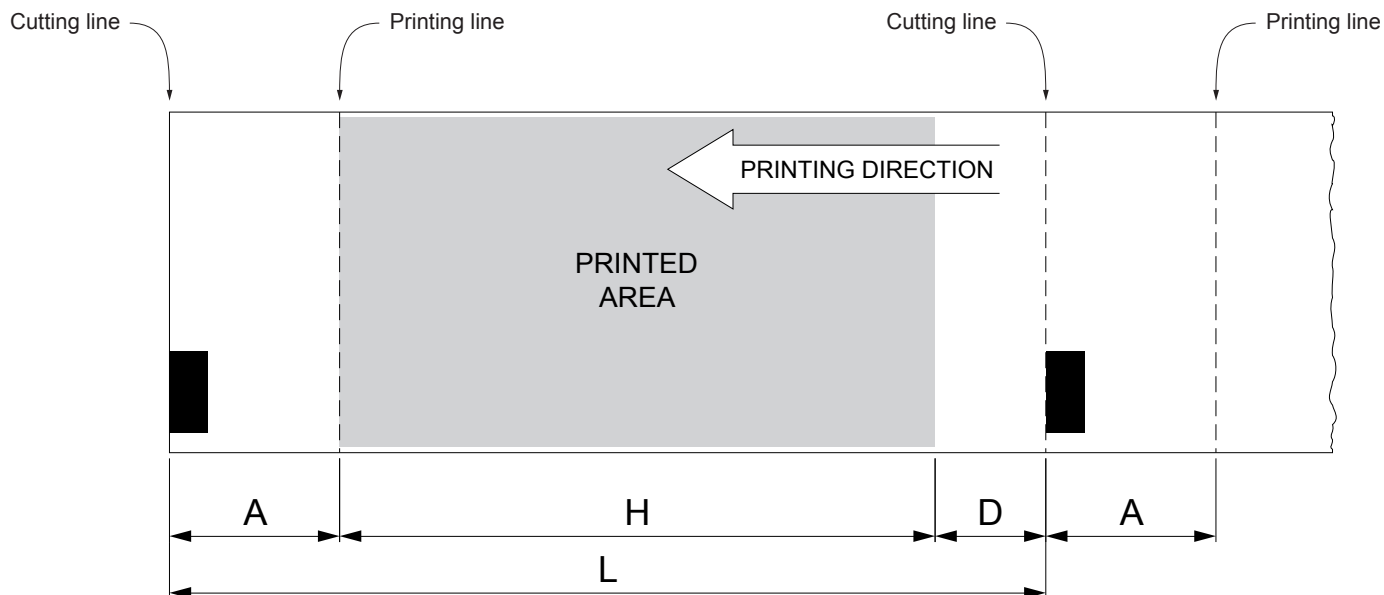
The “Black Mark Distance” parameter, may be modified as described in [chapter 6](#).

## 7.3 Printing area

In order to print ticket containing only one black mark and to not overlay printing to a black mark (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-black mark distance;
- the value for the paper recovery after a cut.

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



A “Non-printable area” of 1 mm generated from:

“Distance between autocutter/printhead”- “Value for the paper recovery after a cut”

where:

“Distance between autocutter/printing head” = 30 mm (fixed distance)

“Value for the paper recovery after a cut” = 29 mm

Use the command 0x1C 0xC1 to set the “Value for the paper recovery after a cut” (see commands manual).

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

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

D Automatic feed for alignment at the next black mark.

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

$$H + A \leq L$$

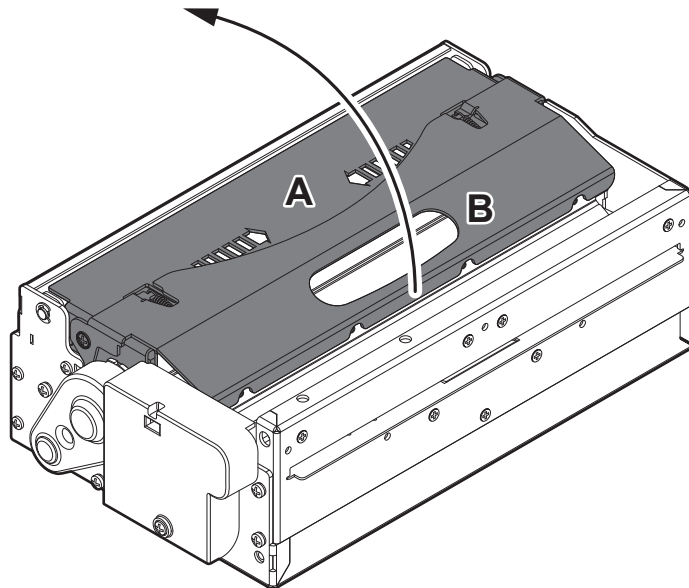
The height of the printing area (H) can be increased to make no progress on alignment (D) but no further.



# 8 MAINTENANCE

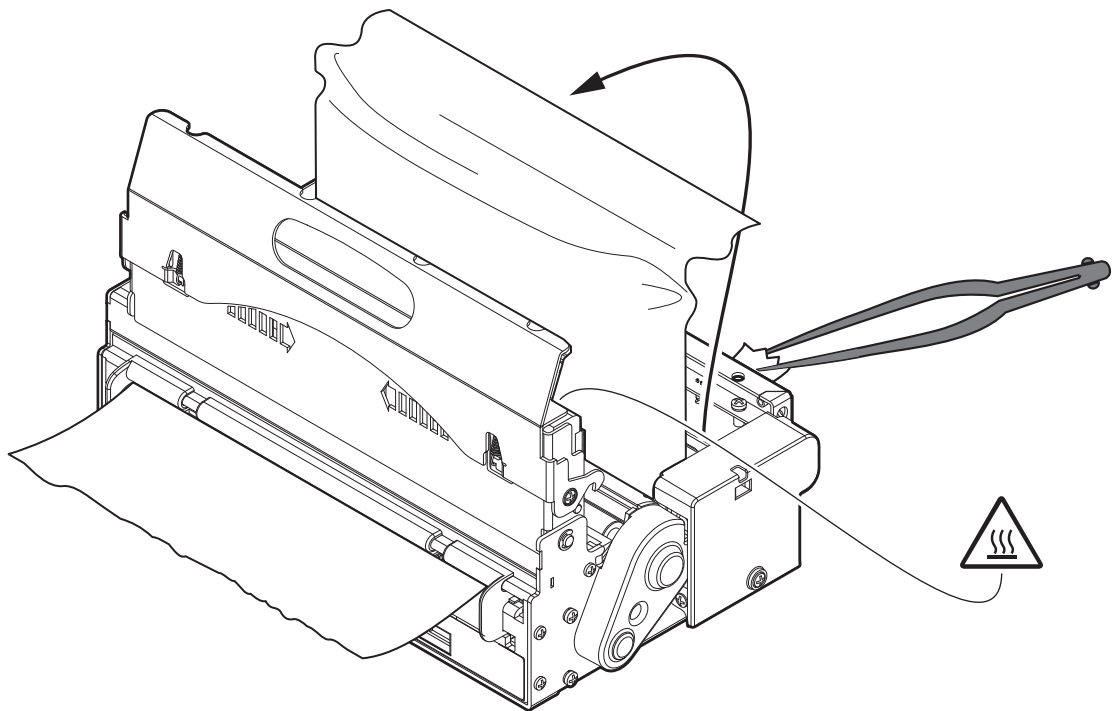
## 8.1 Ejector paper jam

1



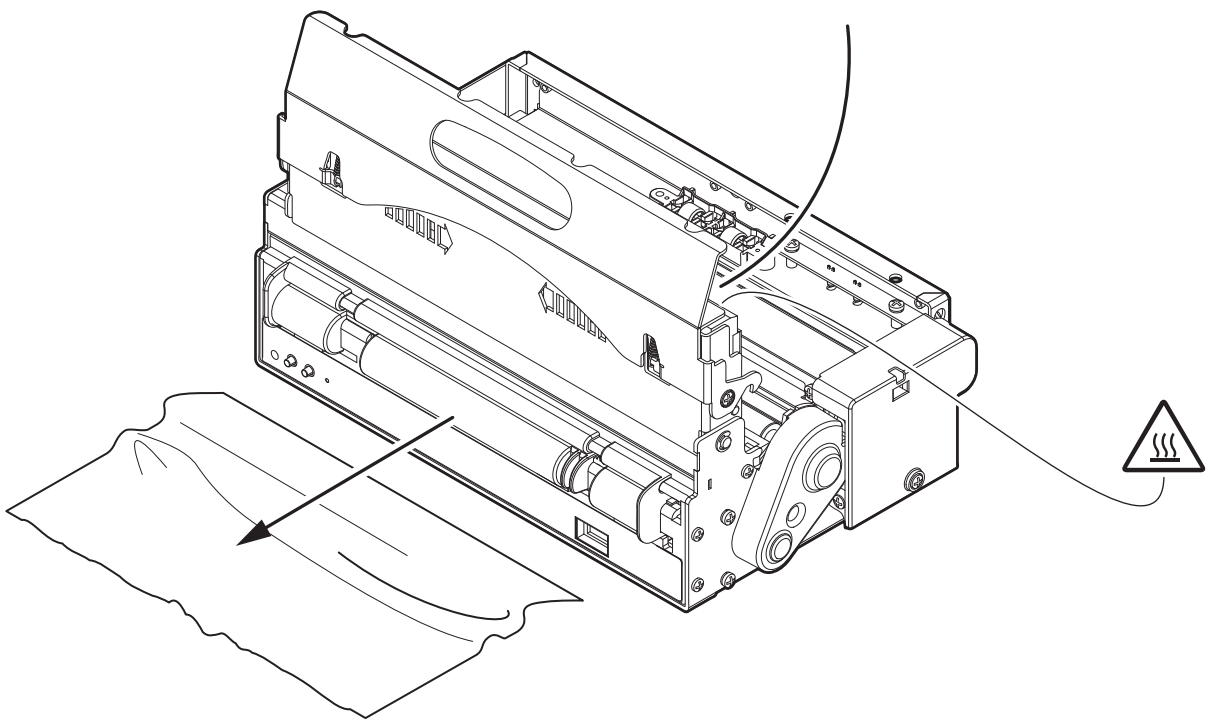
Lift up the printhead group A using the opening slot B located on the cover.

2



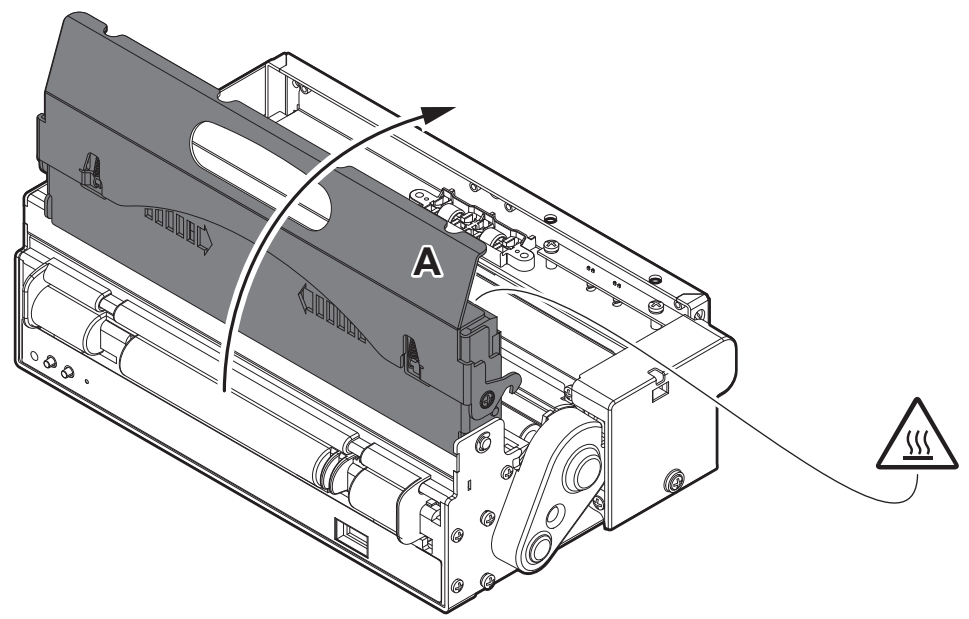
Remove the damaged paper and check the presence for paper scraps inside the device; carefully remove all scraps of paper. If necessary, use tweezers.

3



Remove the damaged paper by pulling it in the direction shown in figure.

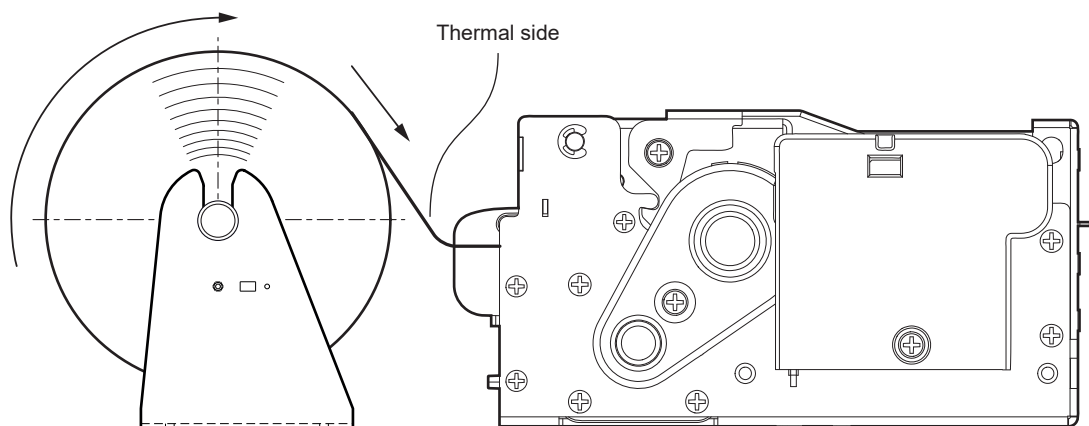
4



Lower down the printhead group A and close the cover.



5



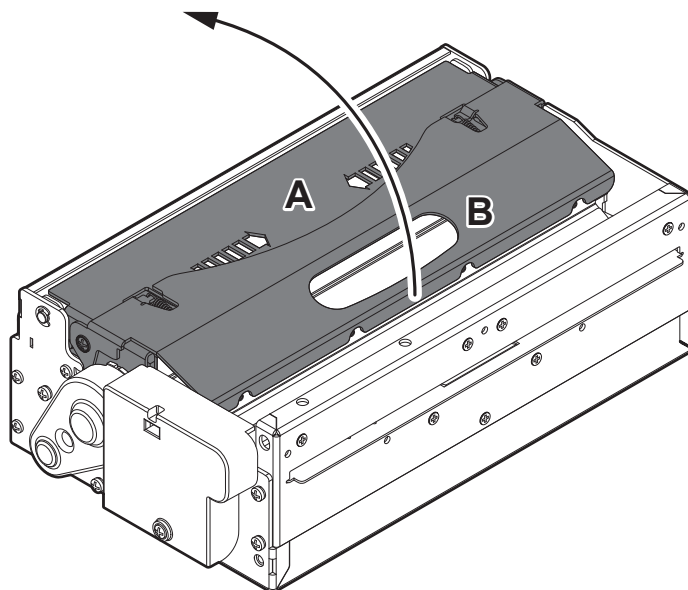
Insert the paper into the paper input opening and wait until the paper is automatically loaded and cut (see [paragraph 5.3](#)).



## 8.2 Autocutter paper jam

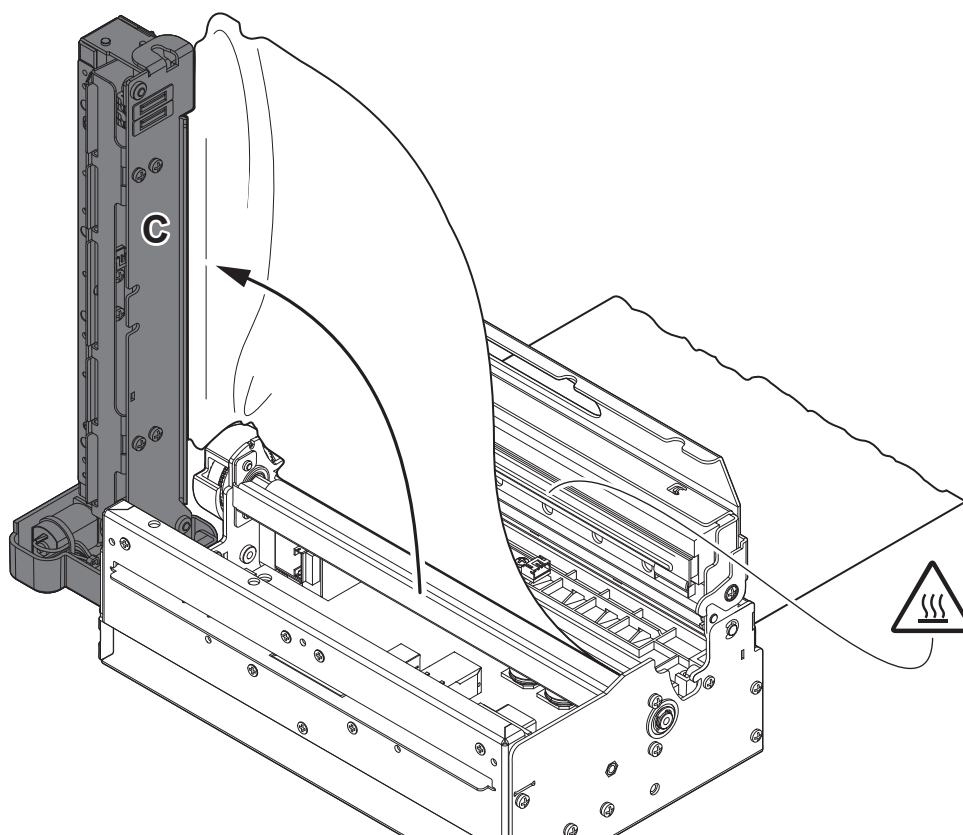
KM216HIII e200

1



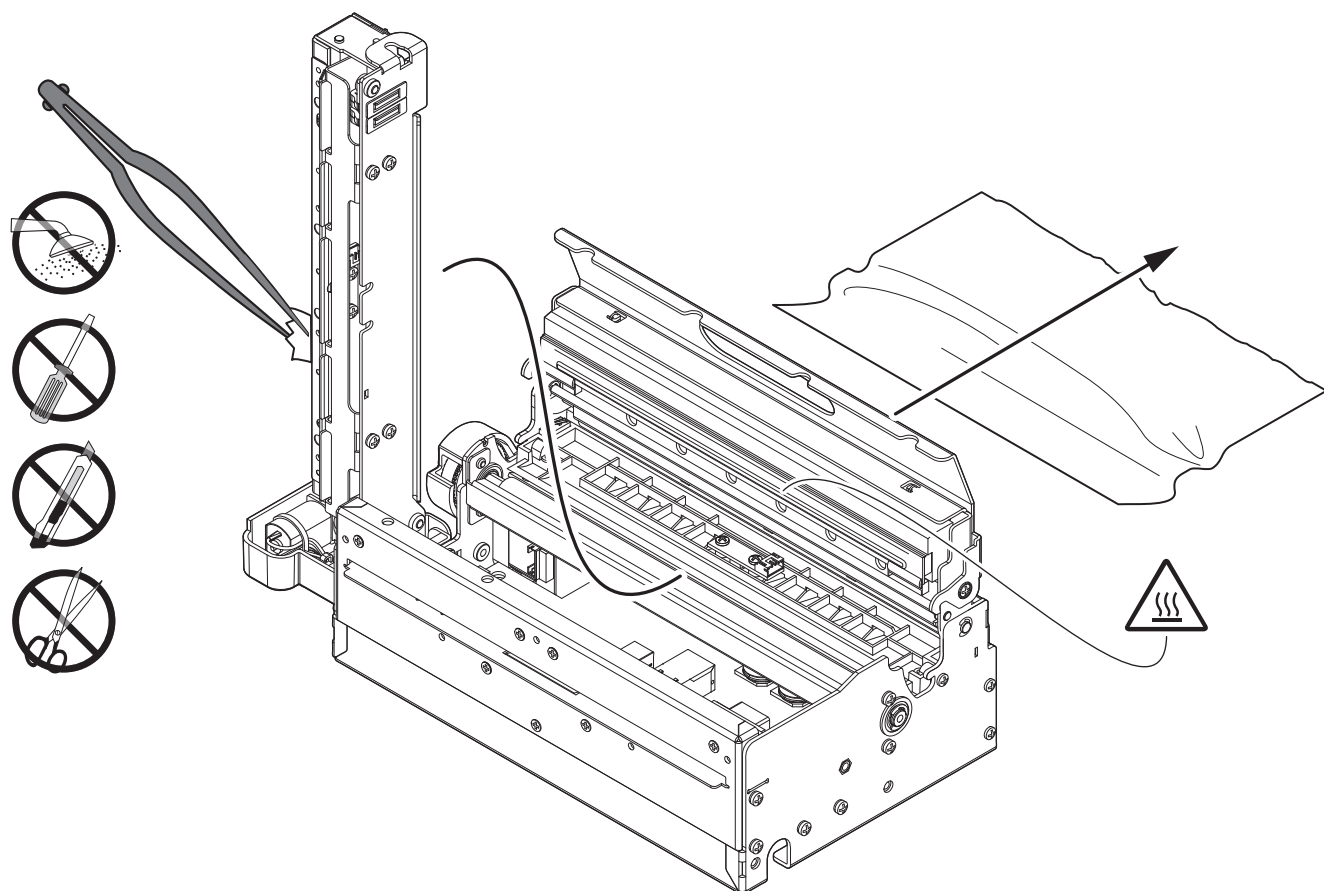
Lift up the printhead group A using the opening slot B located on the cover.

2



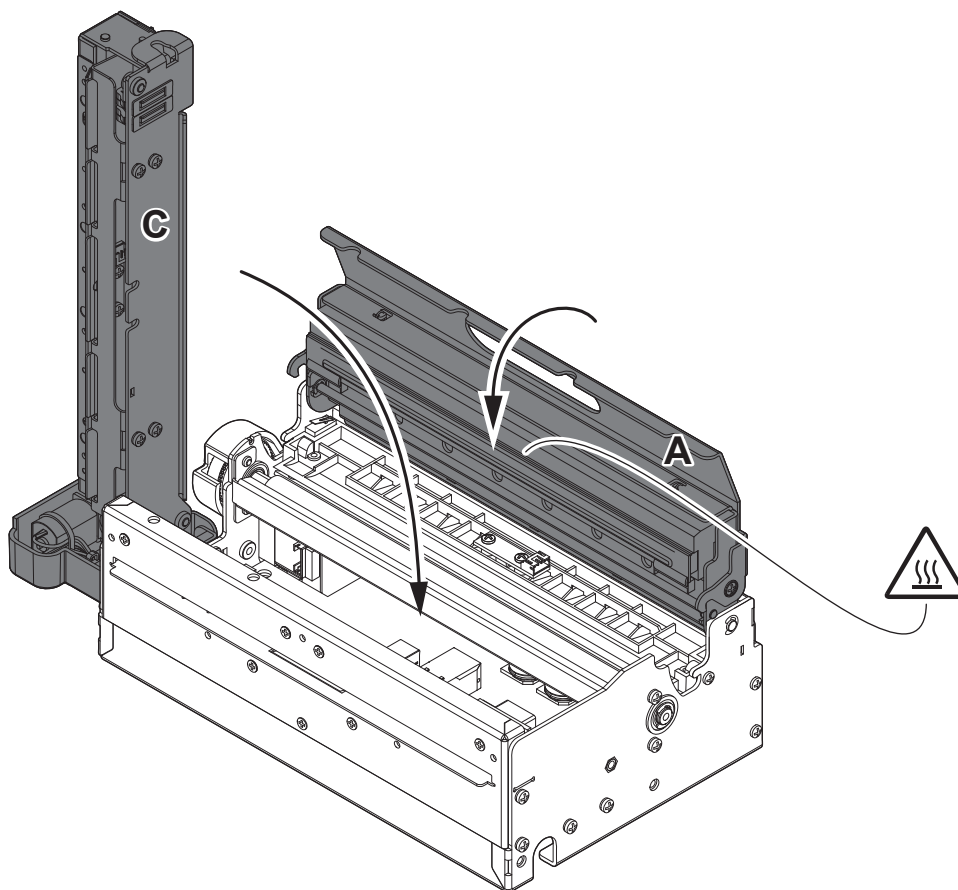
Lift up the autocutter C.

3



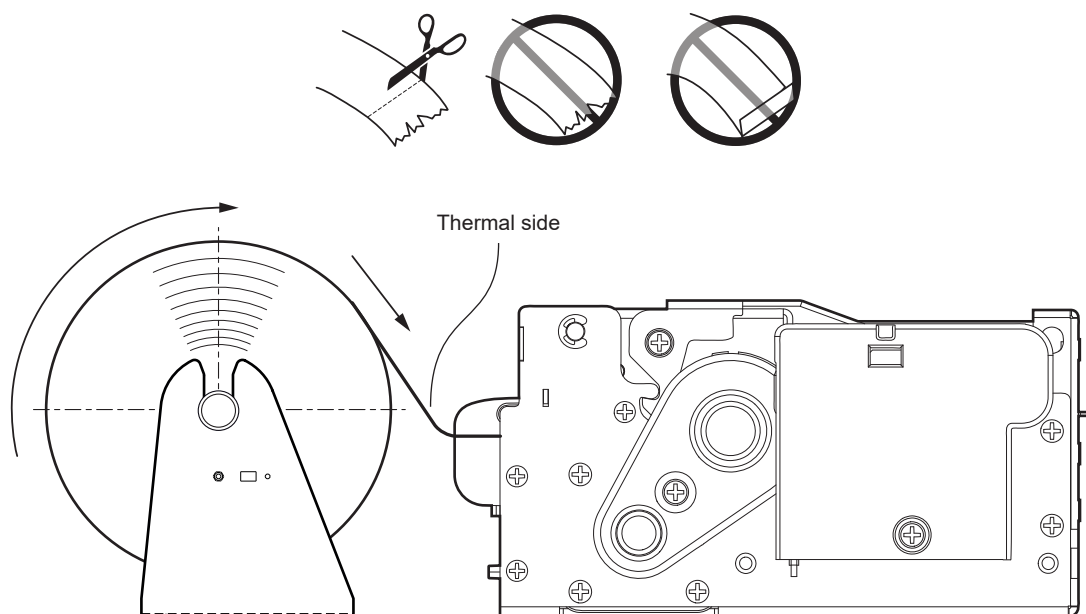
Remove the damaged paper and check the presence for paper scraps inside the device; carefully remove all scraps of paper. If necessary, use tweezers.

4



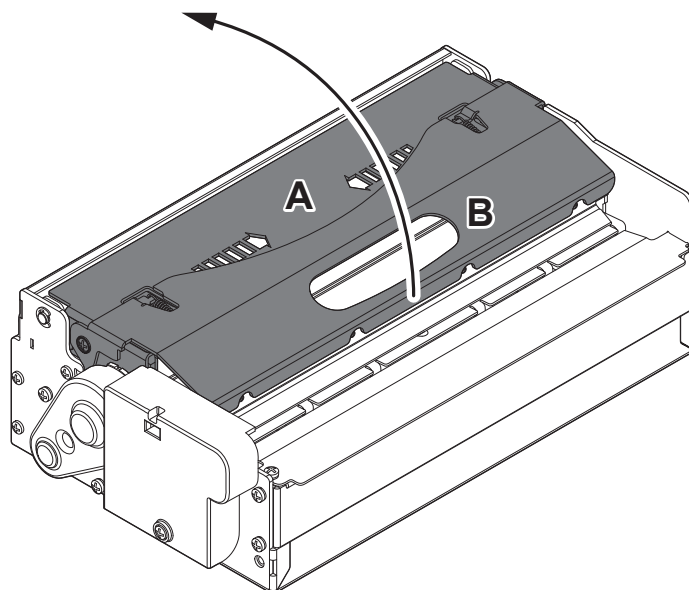
Close the autocutter C and the printhead group A.

5



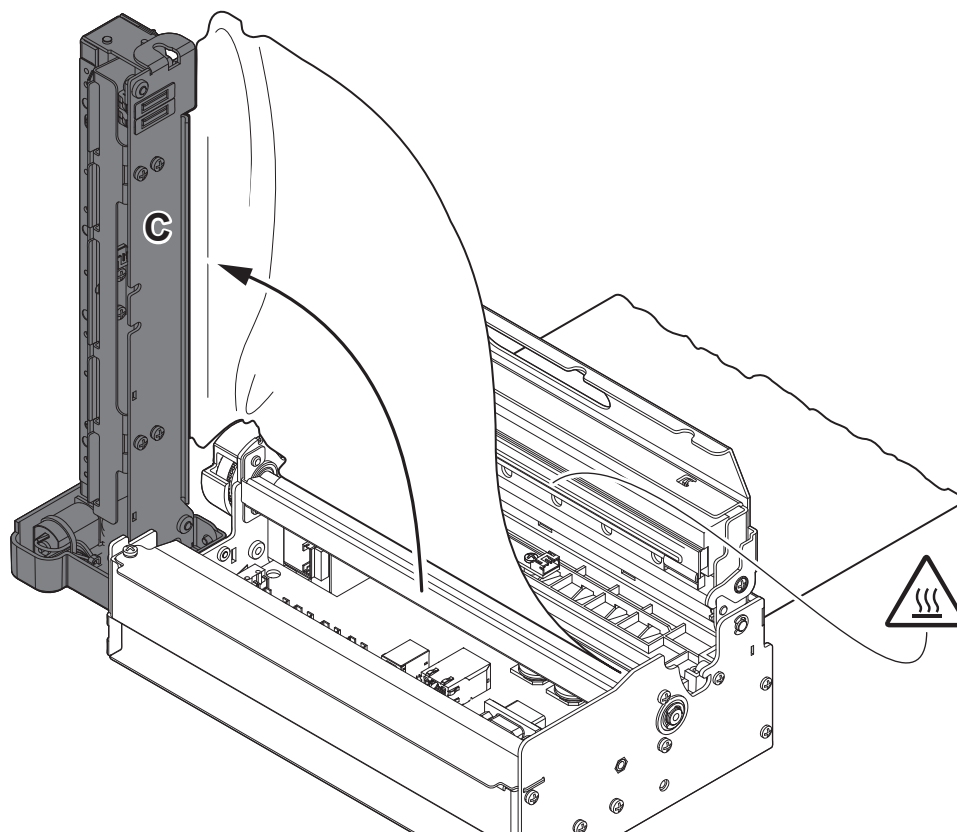
Insert the paper into the paper input opening and wait until the paper is automatically loaded and cut (see [paragraph 5.3](#)).

1



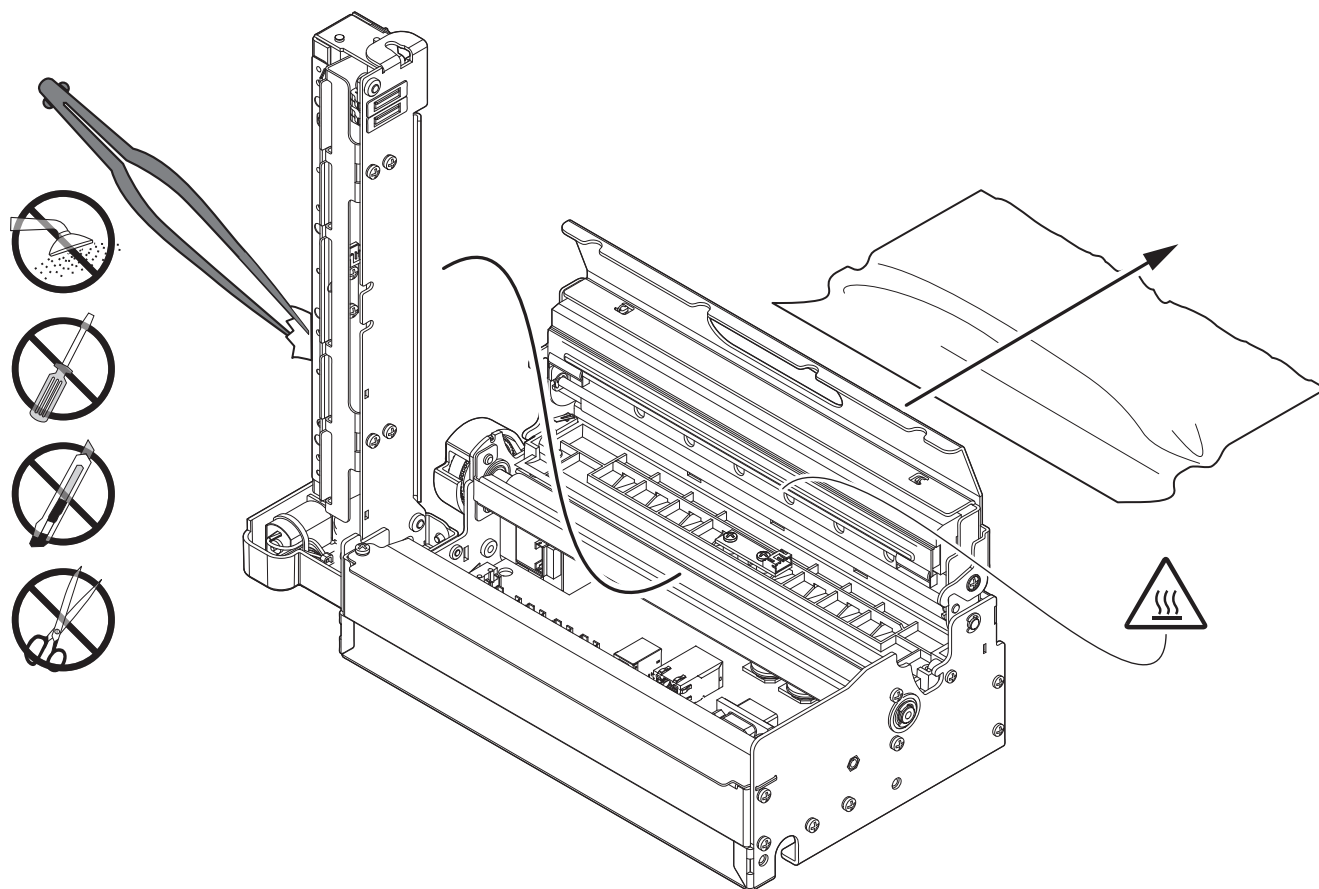
Lift up the printhead group A using the opening slot B located on the cover.

2



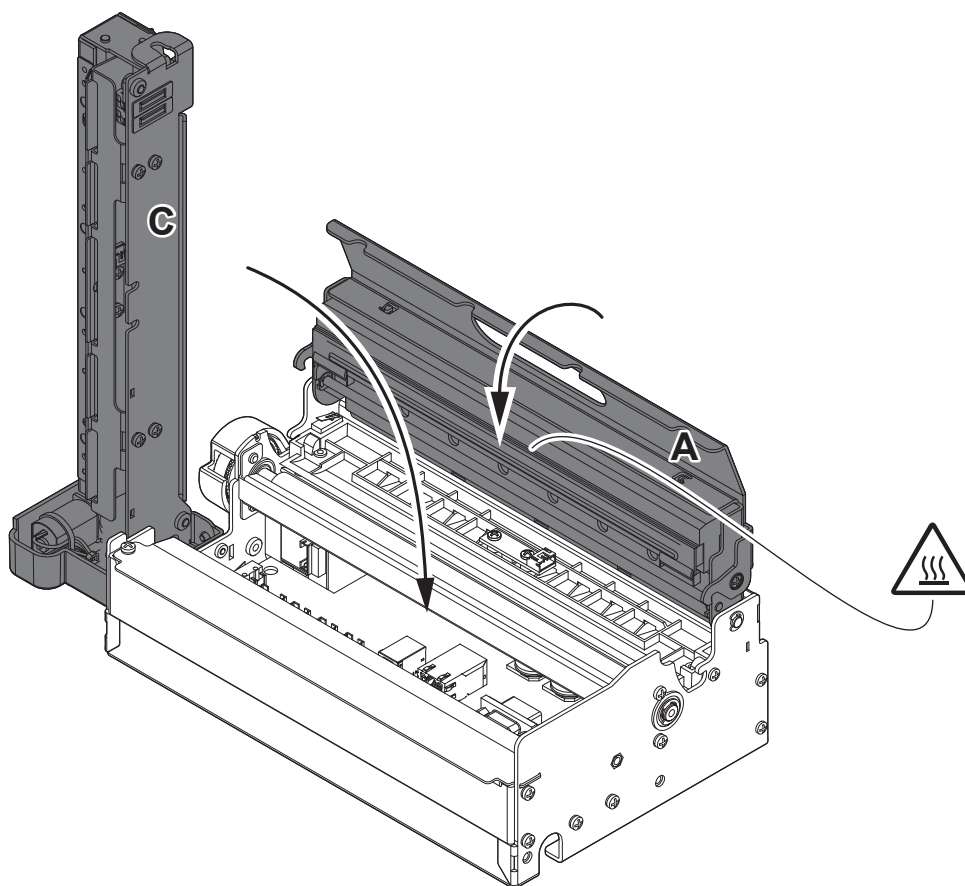
Lift up the autocutter C.

3



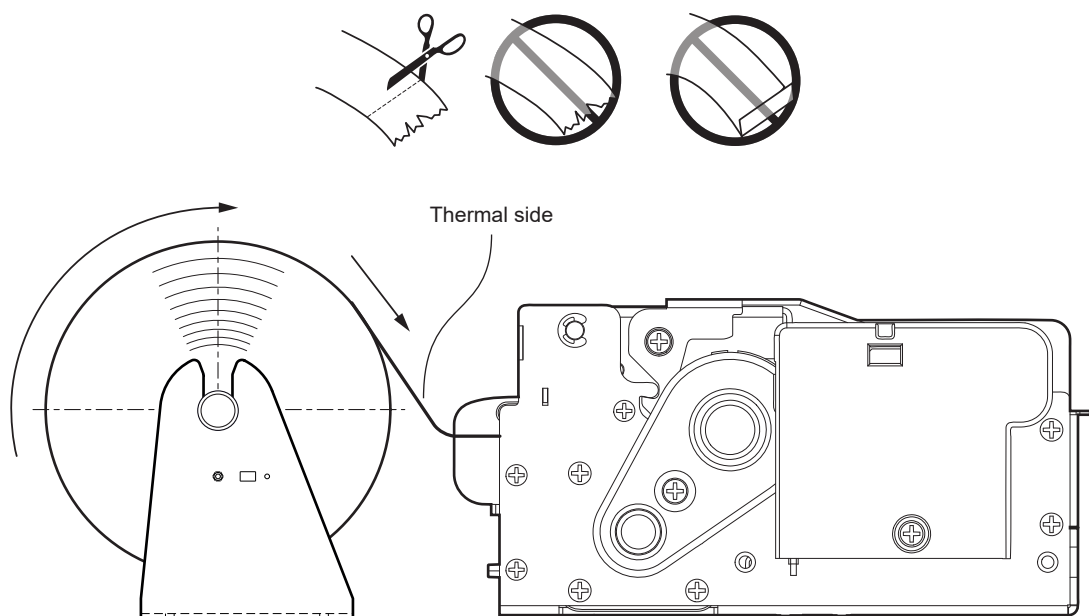
Remove the damaged paper and check the presence for paper scraps inside the device;  
carefully remove all scraps of paper. If necessary, use tweezers.

4



Close the autocutter C and the printhead group A.

5



Insert the paper into the paper input opening and wait until the paper is automatically loaded and cut (see [paragraph 5.3](#)).



## 8.3 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.

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

For specific procedures, see the following pages.

### EVERY PAPER CHANGE

Printhead	Use isopropyl alcohol
-----------	-----------------------

Rollers	Use isopropyl alcohol
---------	-----------------------

### EVERY 5 PAPER CHANGES

Autocutter	Use compressed air
------------	--------------------

Paper path	Use compressed air or tweezers
------------	--------------------------------

Sensors	Use compressed air
---------	--------------------

### EVERY 6 MONTHS OR AS NEEDED

Case	Use compressed air or a soft cloth
------	------------------------------------



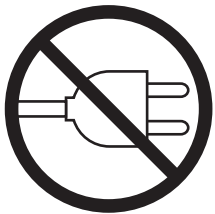
# 8.4 Cleaning

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For periodic cleaning of the device, see the instructions below.

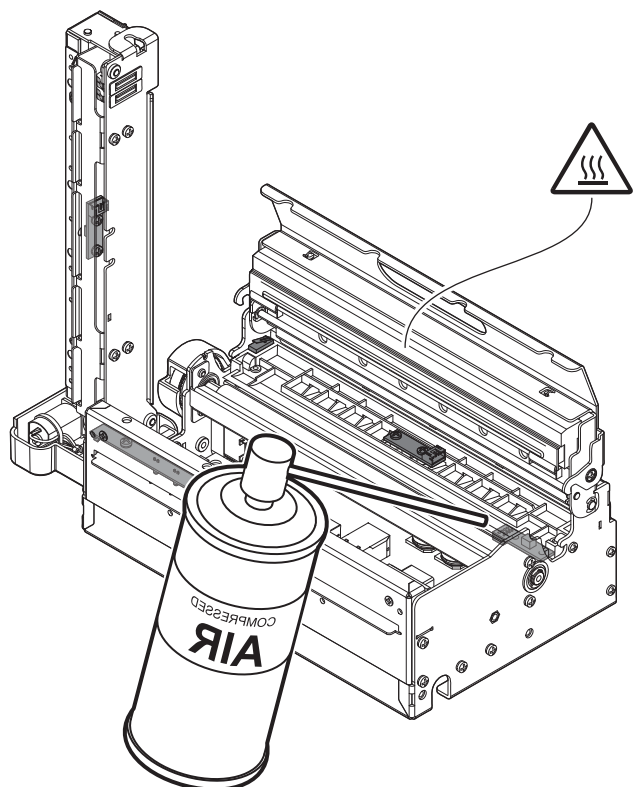
### Sensors

**1**




Disconnect the power supply cable and lift up the autocutter (see [paragraph 8.2](#)).

**2**



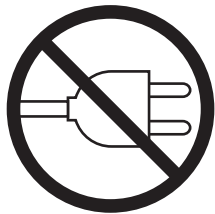
**ATTENTION:**  
Do not use alcohol, solvents, or hard brushes.  
Do not let water or other liquids get inside the device.



Clean the device sensors by using compressed air.

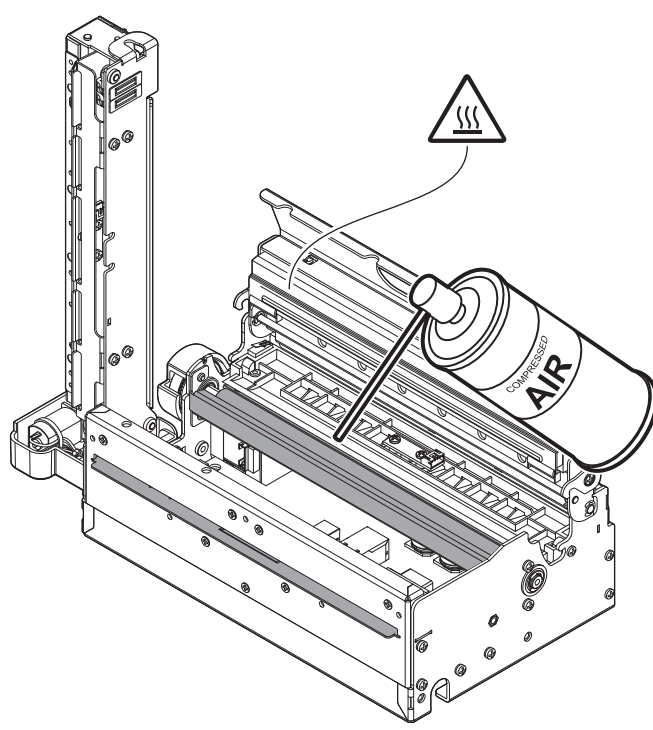
### Paper path

**1**




Disconnect the power supply cable and lift up the autocutter (see [paragraph 8.2](#)).

**2**



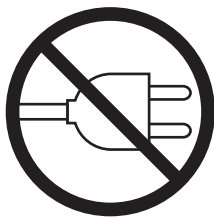
**ATTENTION:**  
Do not use alcohol, solvents, or hard brushes.  
Do not let water or other liquids get inside the device.



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

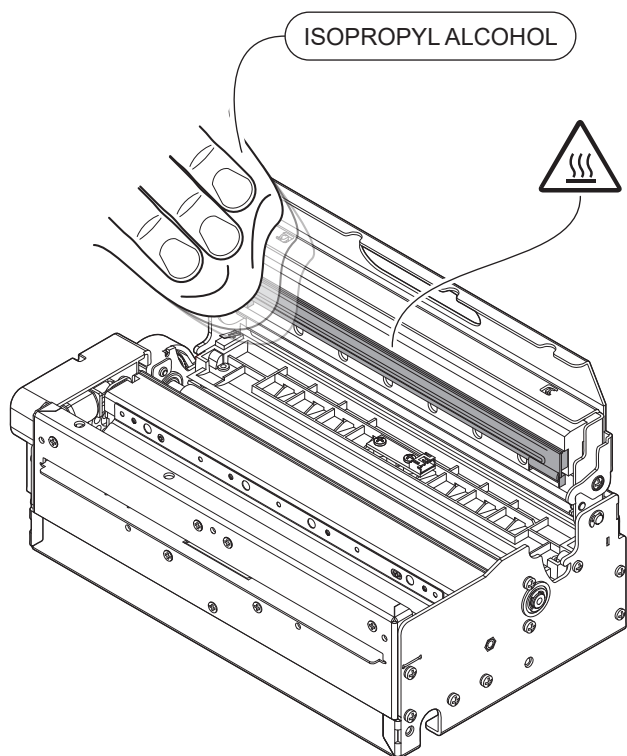
### Printhead

1



Disconnect the power supply cable and lift up the printhead (see [paragraph 8.1](#)).

2



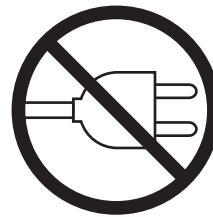
**ATTENTION:**  
Do not use solvents, or hard brushes.  
Do not let water or other liquids get inside the machine.



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

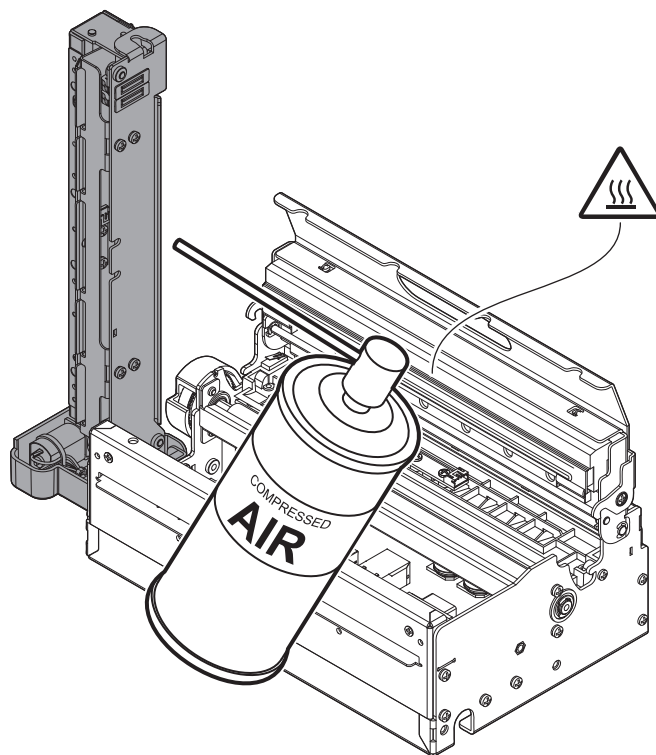
### Autocutter

1



Disconnect the power supply cable and lift up the autocutter (see [paragraph 8.2](#)).

2



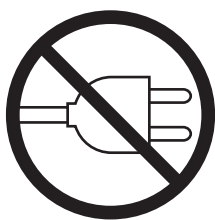
**ATTENTION:**  
Do not use alcohol, solvents, or hard brushes.  
Do not let water or other liquids get inside the device.



Clean the autocutter by using compressed air.

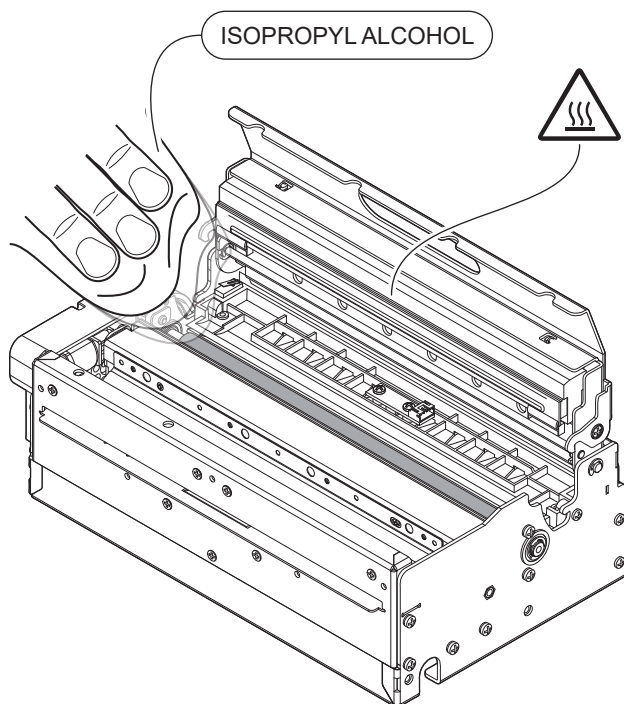
## Rollers

1



Disconnect the power supply cable and lift up the printhead and the rollers cover (see [paragraph 8.1](#)).

2



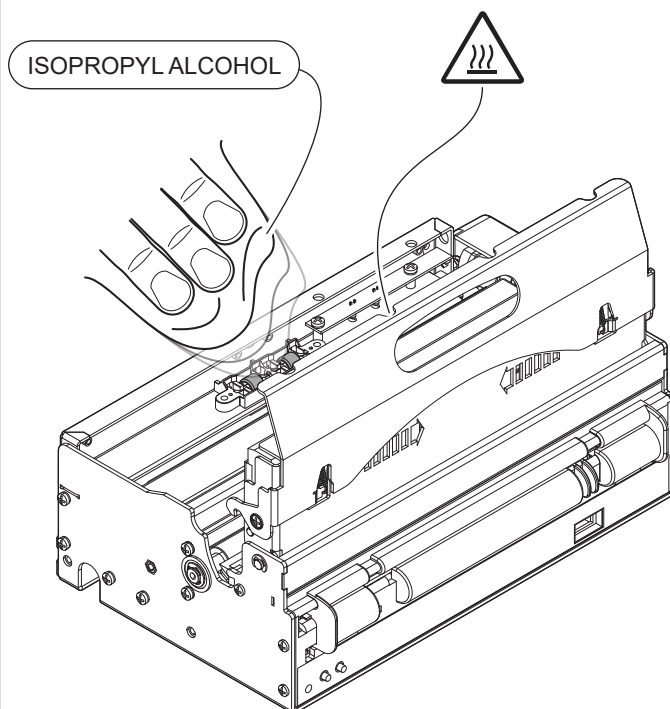
**ATTENTION:**

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



Clean the platen roller by using a non-abrasive cloth moistened with isopropyl.

3



**ATTENTION:**

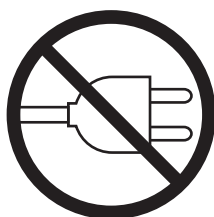
Do not use solvents, or hard brushes.  
Do not let water or other liquids get inside the machine.



Clean the ejector roller by using a non-abrasive cloth moistened with isopropyl.

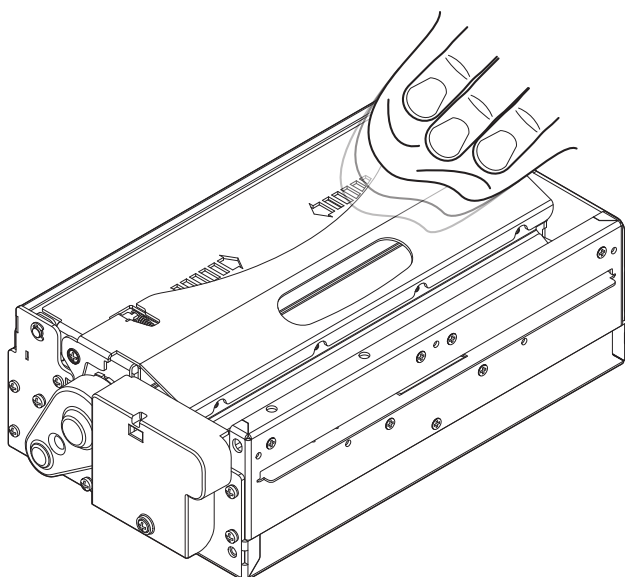
Case

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 device.



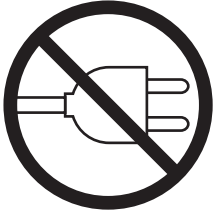
To clean the device,  
use compressed air or a soft cloth.

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For periodic cleaning of the device, see the instructions below.

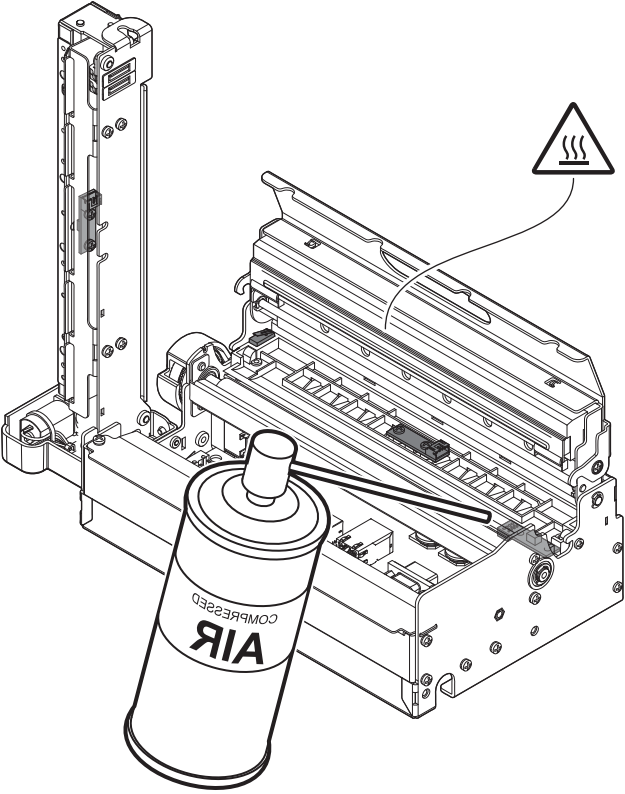
## Sensors

**1**







Disconnect the power supply cable and lift up the autocutter (see [paragraph 8.2](#)).

**2**



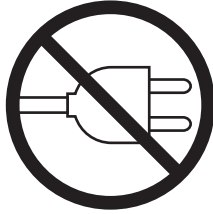
**ATTENTION:**  
Do not use alcohol, solvents, or hard brushes.  
Do not let water or other liquids get inside the device.

Clean the device sensors by using compressed air.

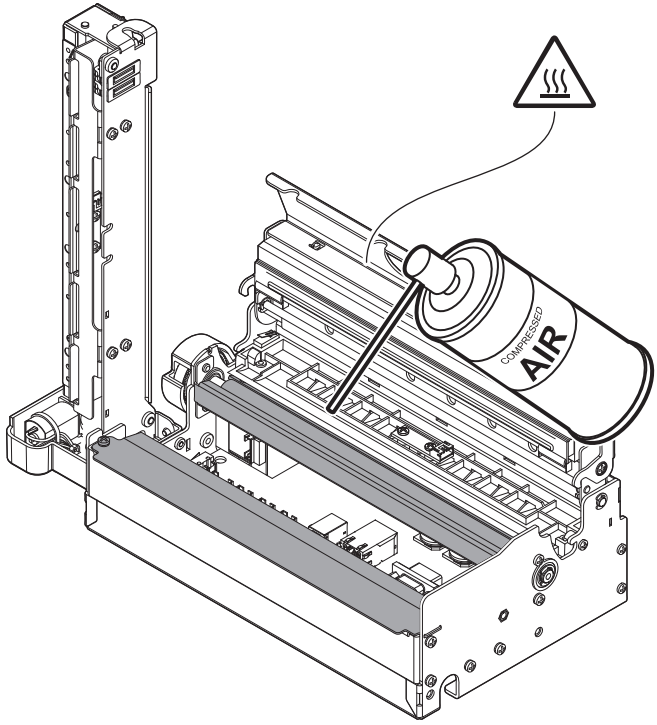
## Paper path

**1**







Disconnect the power supply cable and lift up the autocutter (see [paragraph 8.2](#)).

**2**



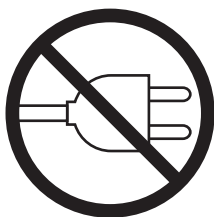
**ATTENTION:**  
Do not use alcohol, solvents, or hard brushes.  
Do not let water or other liquids get inside the device.

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

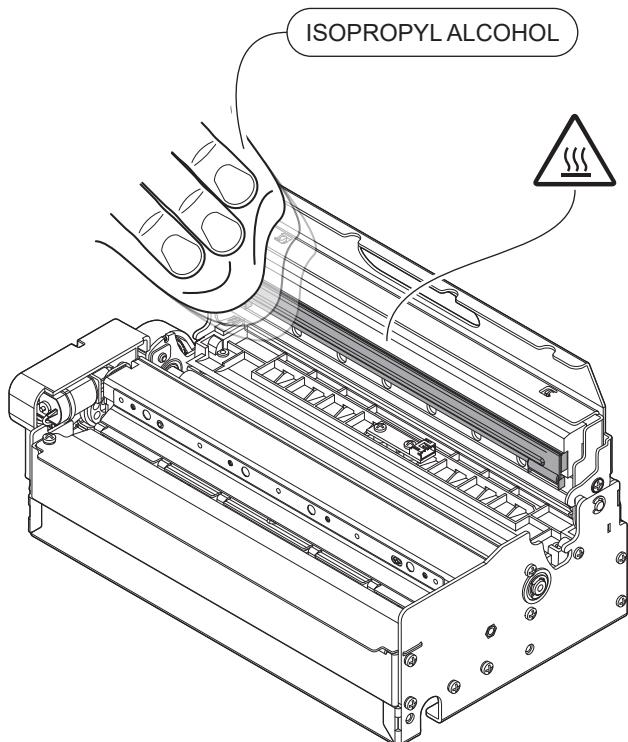
## Printhead

1



Disconnect the power supply cable and lift up the printhead (see [paragraph 8.1](#)).

2



**ATTENTION:**

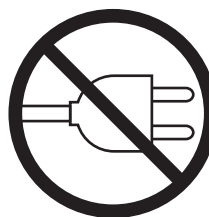
Do not use solvents, or hard brushes.  
Do not let water or other liquids get inside the machine.



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

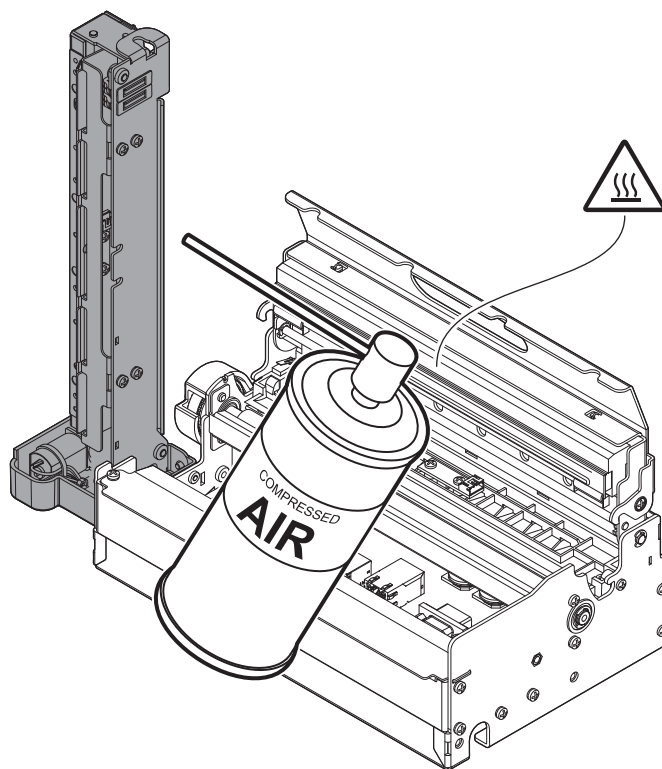
## Autocutter

1



Disconnect the power supply cable and lift up the autocutter (see [paragraph 8.2](#)).

2



**ATTENTION:**

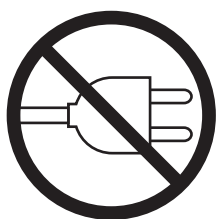
Do not use alcohol, solvents, or hard brushes.  
Do not let water or other liquids get inside the device.



Clean the autocutter by using compressed air.

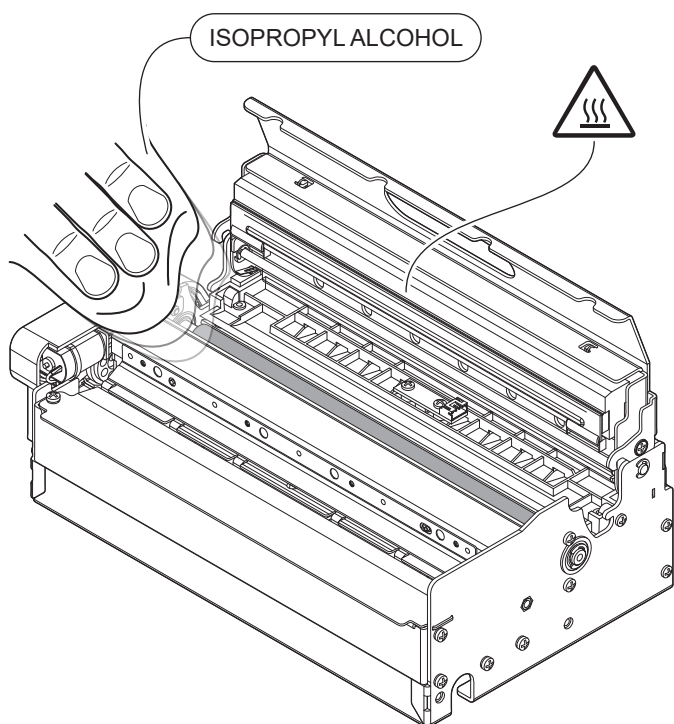
## Rollers

1



Disconnect the power supply cable and lift up the printhead and the rollers cover (see [paragraph 8.1](#)).

2



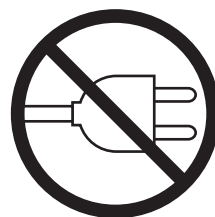
**ATTENTION:**  
Do not use solvents, or hard brushes.  
Do not let water or other liquids get inside the machine.



Clean the platen roller by using a non-abrasive cloth moistened with isopropyl.

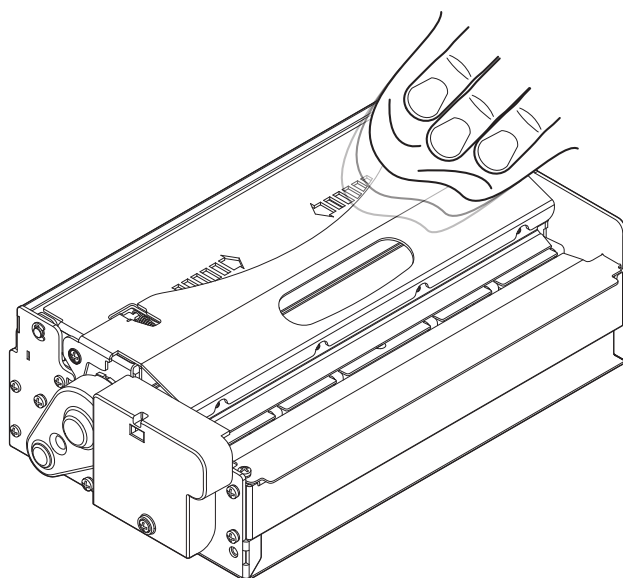
## Case

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 device.



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

## 8.5 Firmware upgrade

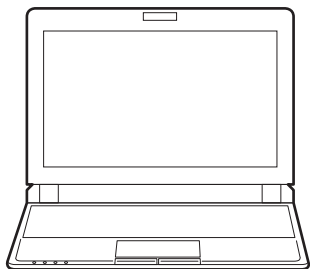
Firmware upgrade can be performed by using the “PrinterSet” software tool available on [www.custom4u.it](http://www.custom4u.it). To upgrade firmware, proceed as follows:

1



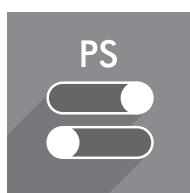
Login to the website [www.custom4u.it](http://www.custom4u.it), type in the product code of the device and download the latest firmware release available.

2



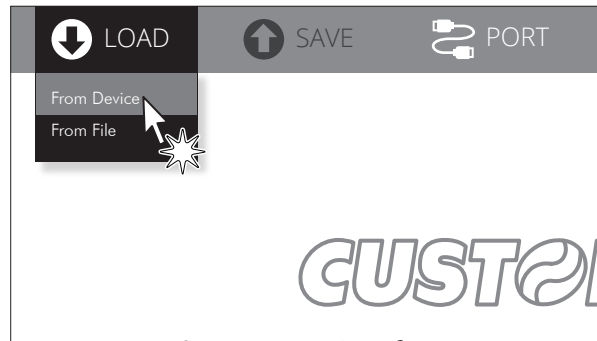
Connect the device to a PC directly (see [paragraph 4.5](#)), without using HUB devices.

3



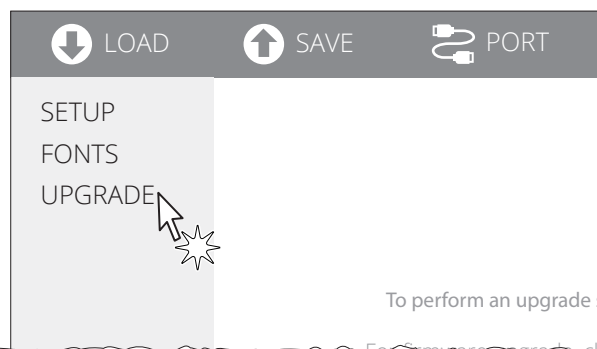
Start the “PrinterSet” software tool.

4



Click on LOAD > FROM DEVICE and select the device connected to the PC.

5



Click on UPGRADE and follow the instructions shown on the screen.

### ATTENTION:

During saving, it is strongly discouraged to disconnect the communication cable or to remove the power supply of the PC or the device.





# 9 SPECIFICATION

## 9.1 Hardware specifications

GENERALS	
Sensors	Head temperature, paper in presence, paper out presence, paper under the autocutter, black mark detector, printhead open, external low paper
Emulations	CUSTOM/POS
Printing driver	Windows 7 (32/64 bit) Windows 8 (32/64 bit) Windows 8.1 (32/64 bit) Windows 10 (32/64 bit) Android iOS
INTERFACES	
USB port	12 Mbit/s (USB 2.0 full speed)
RS232 serial port	from 9600 bps to 115200 bps
Ethernet port	10 Mbit/s, 100 Mbit/s
MEMORIES	
Receive buffer	16 kB
Flash memory	1 MB internal + 8 MB external SPI
RAM memory	8 MB
Graphic memory	5 logos with 1600 x 327 dots
PRINTER	
Resolution	203 dpi (8 dot/mm)
Printing method	Thermal, fixed head
Head life <sup>(1)</sup>	
Abrasion resistance <sup>(2)</sup>	100 km (with recommended paper)
Pulse durability	100 M (12.5% duty cycle)



Printing width	200 mm
Printing mode	Normal, 90°, 180°, 270°
Printing format	Height/Width from 1 to 8, bold, reverse, underlined, italic
Character fonts	54 character code tables (see <a href="#">paragraph 9.8</a> ), extended chinese GB18030-2000
Printable barcode	UPCA, UPCE, EAN13, EAN8, CODE39, ITF, CODABAR, CODE93, CODE128, CODE32, PDF417, DATAMATRIX, AZTEC, QRCODE
Printing speed <sup>(1) (3)</sup>	High Speed = 125 mm/s Normal = 125 mm/s High Quality = 105 mm/s

## PAPER

Type of paper	Thermal rolls, heat-sensitive side on outside of roll
Paper width	from 210 mm to 216 mm ± 0.5 mm
Paper weight	from 58 g/m <sup>2</sup> to 78 g/m <sup>2</sup>
Paper thickness	from 63 µm to 85 µm
Recommended types of paper	KANZAN KF50 and KP460 MITSUBISHI PF5067 and TL4000
External roll diameter <sup>(4)</sup>	max. 180 mm
External roll core diameter	25 mm (+ 1 mm)
Paper end	Not attached to roll core
Core type	Cardboard or plastic

## AUTOCUTTER

Paper cut	Total cut
Estimated life <sup>(1)</sup>	300000 cuts

## DEVICE ELECTRICAL SPECIFICATIONS

Power supply	24 Vdc ±10% (optional external power supply)
Typical consumption <sup>(3)</sup>	2.2 A



---

Standby consumption 0.05 A

ELECTRICAL SPECIFICATIONS POWER SUPPLY code 964GE010000013 (optional)

KM216HIII e200

---

Power supply voltage from 85 Vac to 264 Vac

---

Frequency from 47 Hz to 63 Hz

---

Output 24 V, 9.4 A

---

Power 225 W

ELECTRICAL SPECIFICATIONS POWER SUPPLY code 963GE020000106 (optional)

KM216HIII c200

---

Power supply voltage Auto Range, from 90 Vac to 264 Vac

---

Frequency from 47 Hz to 63 Hz

---

Output 24 V, 4.17 A

---

Power 100 W

ENVIRONMENTAL CONDITIONS

---

Operating temperature from -20 °C to +50 °C

---

Relative humidity (RH) from 10% to 85% (w/o condensation)

---

Storage temperature from -20 °C to +70 °C

---

Storage relative humidity (RH) from 10% to 80% (w/o condensation)

---

NOTES:

- (1) : Respecting the regular schedule of cleaning for the device components.
- (2) : Damages caused by scratches, ESD and electromigration are excluded.
- (3) : Referred to a standard CUSTOM receipt (L = 10 cm, Density = 12.5% dots on).
- (4) : For external rolls diameter larger than Ø100 mm it's recommended to use a paper pretensioning device.



## 9.2 Character specifications

Character set		3	
Character density	11 cpi	15 cpi	20 cpi
Number of columns	96	132	172
Chars / s	4000	5500	7167
Lines / s	42	42	42
Characters (L x H mm)-Normal	2.25 x 3	1.625 x 3	1.25 x 3

NOTE: Theoretical values.

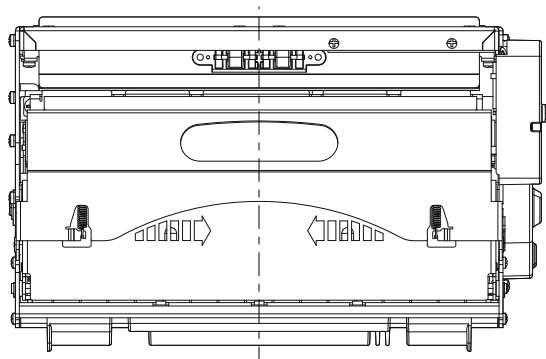
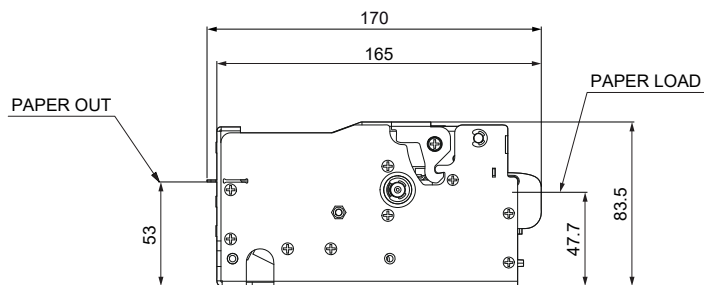
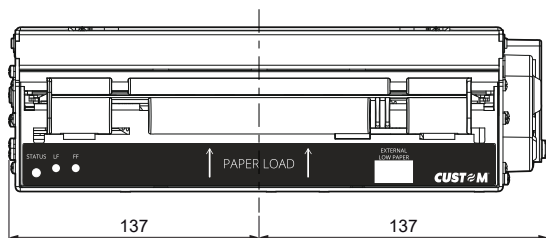
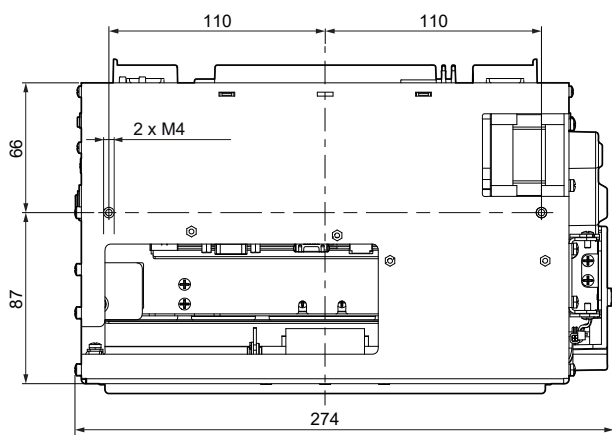


## 9.3 Device dimensions

### KM216HIII e200

Length	170 mm
Height	83.5 mm
Width	274 mm
Weight	3760 g

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

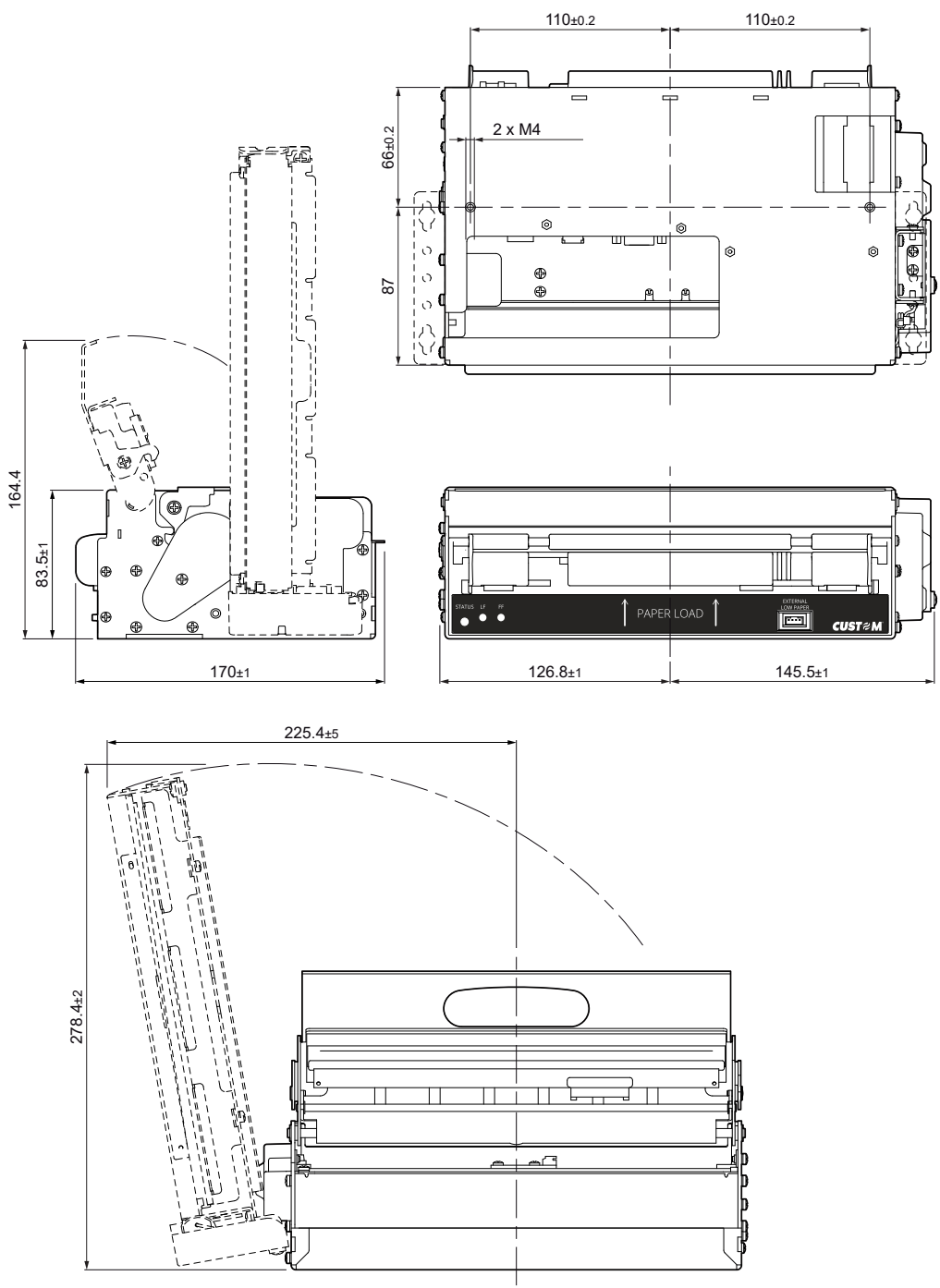




**KM216HIII c200**

Length	170 mm
Height	83.5 mm (with autocutter closed) 278.4 mm (with autocutter open)
Width	272.3 mm (with autocutter closed) 352.2 mm (with autocutter open)
Weight	3436 g

All the dimensions shown in following figures are in millimetres.

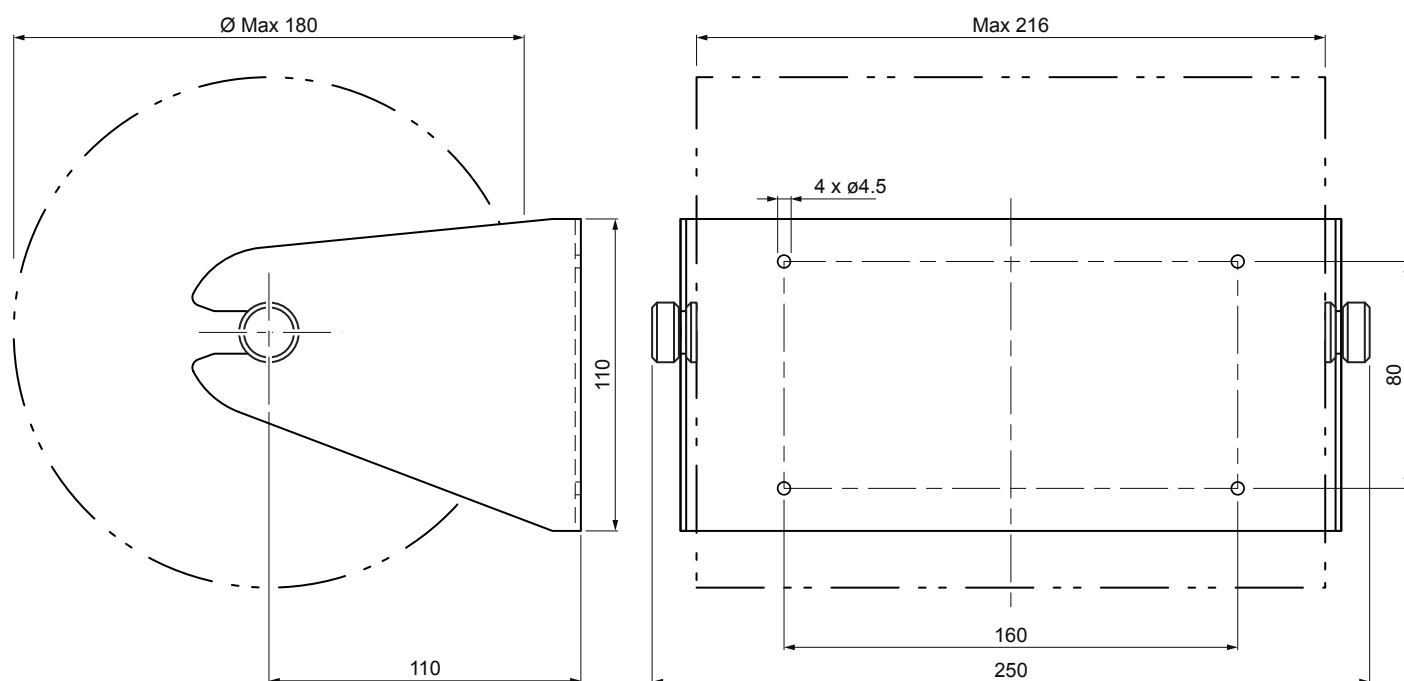


## 9.4 Paper roll holder dimensions code 974AS010000303 (optional)

Length	250 mm
Height	145 mm
Width	110 mm

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

All the dimensions shown in following figures are in millimetres.



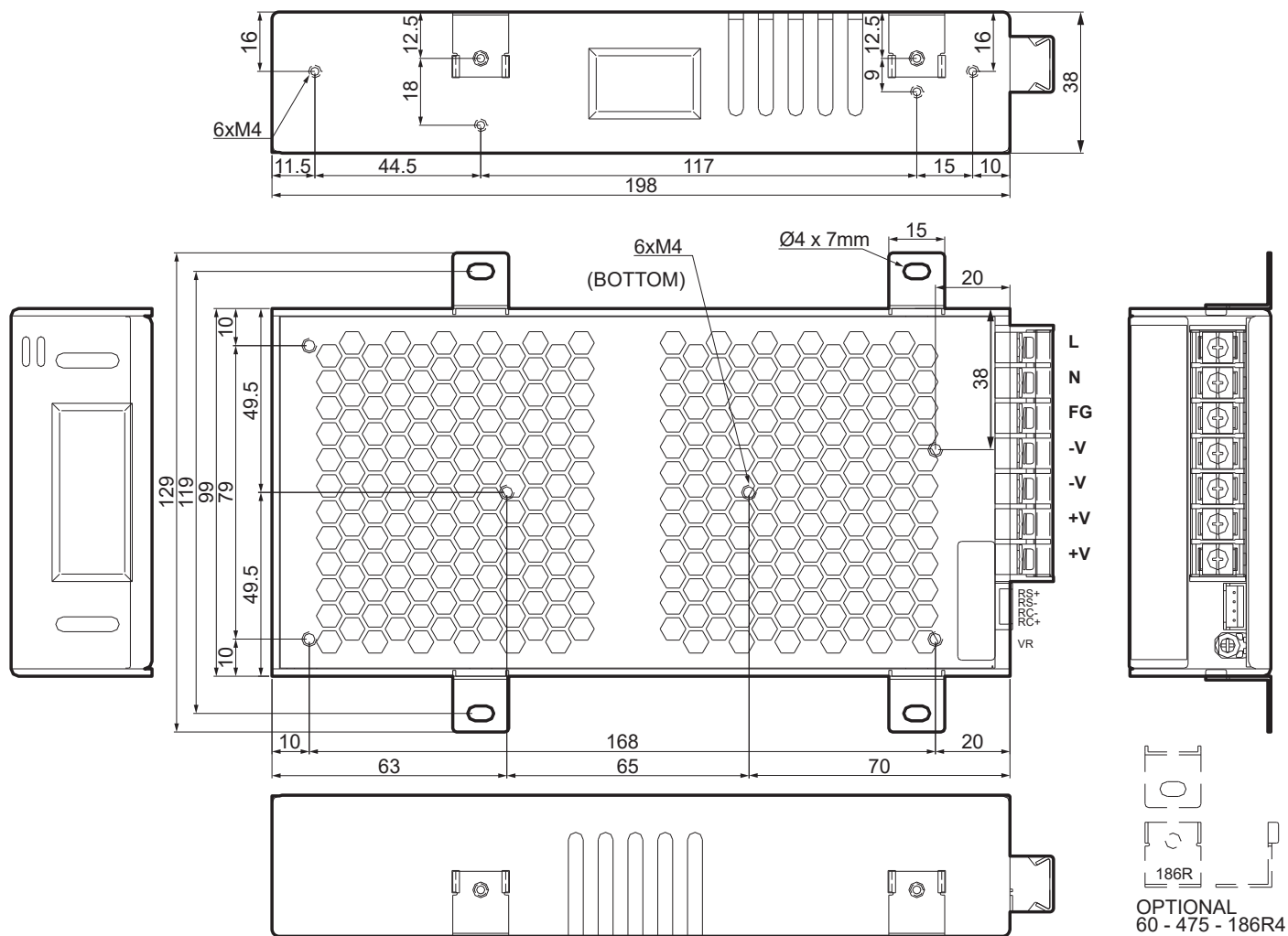


## 9.5 Dimensions of power supply code 964GE010000013 (optional)

### KM216HIII e200

Length	198 mm
Height	38 mm
Width	99 mm

All the dimensions shown in following figures are in millimetres.





## 9.6 Power supply and power cord dimensions

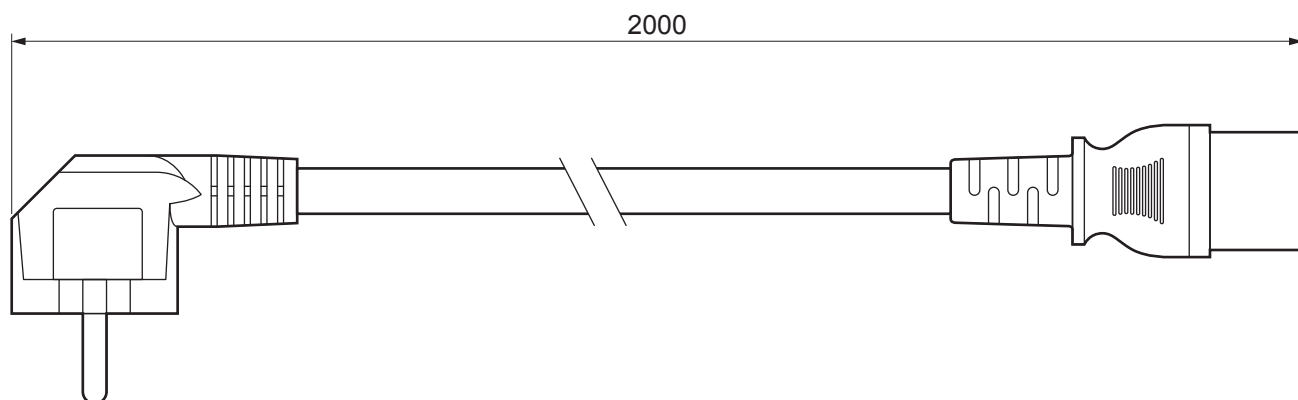
### **KM216HIII c200**

The following table shows the dimensions of the power supply, the power cord and the adapter for power supply optionals for the device.

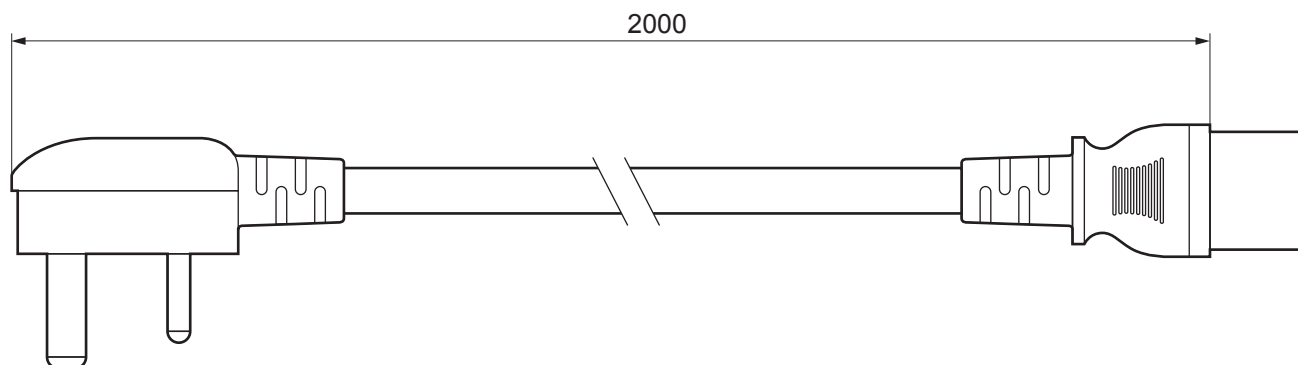
POWER CORD code 26100000000311 and code 26100000000313 (optional)	
Length	2000 mm
POWER SUPPLY code 963GE020000106	
Length	146.2 mm
Height	39 mm
Width	75.2 mm

All the dimensions shown in following figures are in millimetres.

### **POWER CORD code 26100000000311**

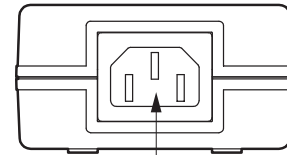
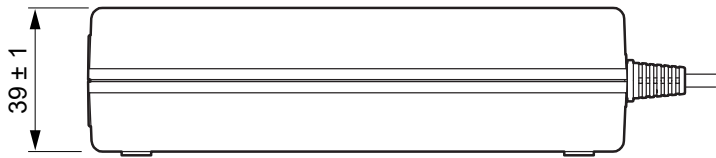


### **POWER CORD code 26100000000313**

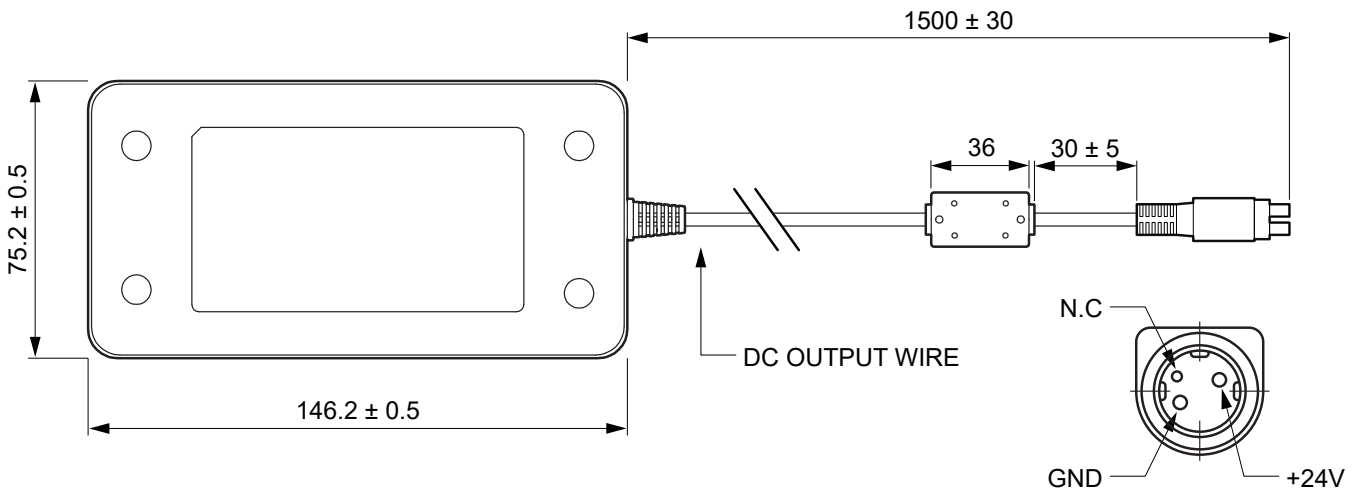




**POWER SUPPLY code 963GE020000106**



AC INLET



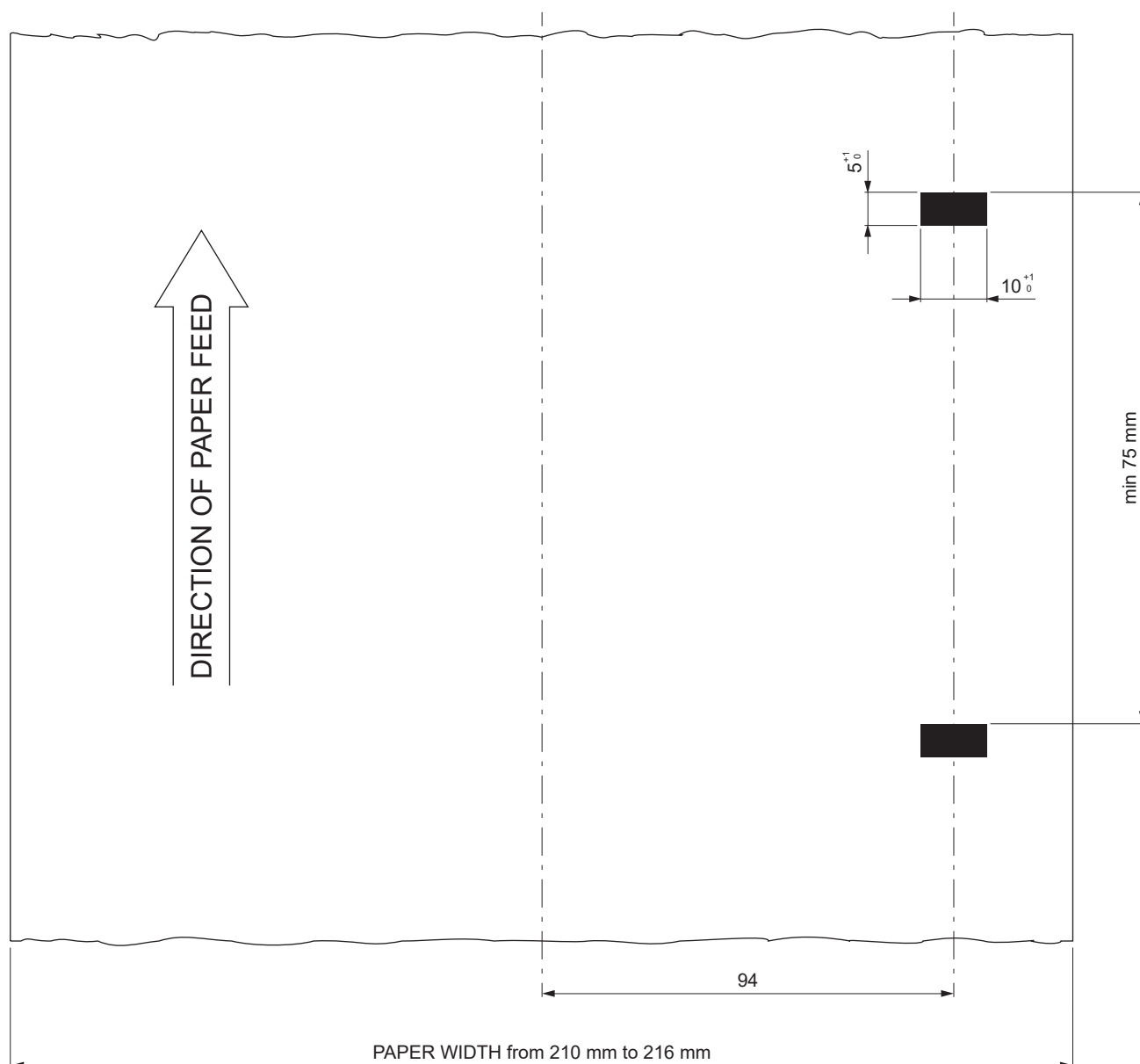
## 9.7 Paper specification

### Paper with black mark

The following image shows an example of black mark placement on the non-thermal side of paper.

For more information about the use of paper with black mark see [chapter 7](#).

All the dimensions shown in following figures are in millimetres.





## 9.8 Character sets in CUSTOM/POS emulation

The device has 3 fonts of varying width (11, 15 and 20 cpi) which may be related one of the coding tables provided on the device.

To know the coding tables actually present on the device, you need to print the font test (see [paragraph 3.6](#)).

You can set font and coding table by using the commands (see the commands manual of the device) or using the "Code Table" and the "Chars/Inch" parameters during the setup procedure (see [paragraph 6.7](#)).

The following is the full list of coding tables that can be installed on the device.

<CodeTable>	Coding table	
0	PC437 - U.S.A., Standard Europe	
1	Katakana	
2	PC850 - Multilingual	
3	PC860 - Portuguese	
4	PC863 - Canadian/French	
5	PC865 - Nordic	
6	VISCII - Vietnamese Standard Code	
11	PC851 - Greek	on request
12	PC853 - Turkish	on request
13	PC857 - Turkish	
14	PC737 - Greek	
15	ISO8859-7 - Greek	on request
16	WPC1252 - Scandinavian	on request
17	PC866 - Cyrillic 2	
18	PC852 - Latin 2	
19	PC858 for Euro symbol in position 213	
20	FKU42 - Thai	
21	TIS11 - Thai	on request
26	TIS18 - Thai	on request
30	TCVN_3 - Vietnamese	on request
31	TCVN_3 - Vietnamese	on request
32	PC720 - Arabic	on request



<CodeTable>	Coding table	
33	WPC775 - Baltic Rim	on request
34	PC855 - Cyrillic	
35	PC861 - Icelandic	on request
36	PC862 - Hebrew	
37	PC864 - Arabic	
38	PC869 - Greek	on request
39	ISO8859-2 - Latin 2	on request
40	ISO8859-15 - Latin 9	on request
41	PC1098 - Farsi	on request
42	PC1118 - Lithuanian	on request
43	PC1119 - Lithuanian	on request
44	PC1125 - Ukrainian	on request
45	WPC1250 - Latin 2	on request
46	WPC1251 - Cyrillic	on request
47	WPC1253 - Greek	on request
48	WPC1254 - Turkish	on request
49	WPC1255 - Hebrew	
50	WPC1256 - Arabic	
51	WPC1257 - Baltic Rim	
52	WPC1258 - Vietnamese	
53	KZ1048 - Kazakh	on request
255	Space page	

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).

The quality of TrueType fonts, the correct positioning into the printable area and the available code tables, 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](http://www.unicode.org)), by using UTF-8 or UTF-16 encoding.





# 10 CONSUMABLES

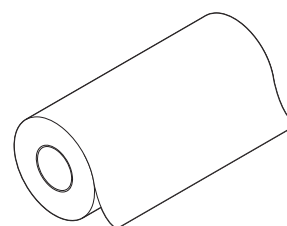
The following table shows the list of available consumables for device.

---

**67300000000321**

THERMAL PAPER ROLL

weight = 74 g/m<sup>2</sup>  
width = 210 mm  
Ø external = 140 mm  
Ø core = 25 mm

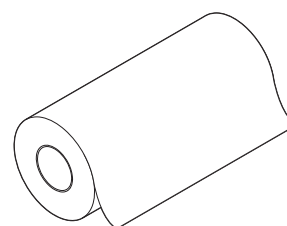


---

**67300000000327**

ROTOLO CARTA TERMICA

weight = 70 g/m<sup>2</sup>  
width = 216 mm  
Ø external = 140 mm  
Ø core = 25 mm







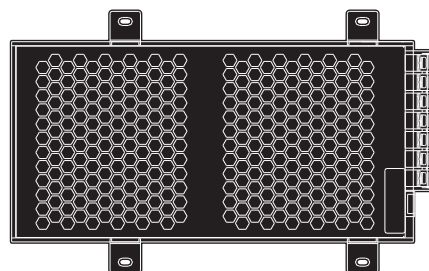
# 11 ACCESSORIES

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

## KM216HIII e200

**964GE010000013**

POWER SUPPLY  
(for technical specifications, see [paragraph 9.1](#))



**26100000000311**

POWER CORD SCHUKO PLUG  
length = 2 m  
(see [paragraph 9.6](#))



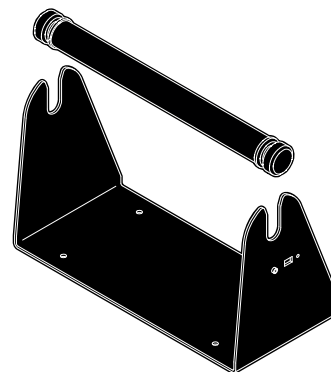
**26100000000313**

POWER CORD UK PLUG  
length = 2 m  
(see [paragraph 9.6](#))



**974AS010000303**

PAPER ROLL HOLDER



**26500000000352**

SERIAL CABLE DB9M-DB9F  
length = 1.8 m



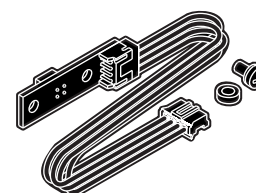
**26500000000356**

USB CABLE TYPE A-B  
length = 1.8 m



**26300000000602**

LOW PAPER KIT  
cable + low paper sensor board

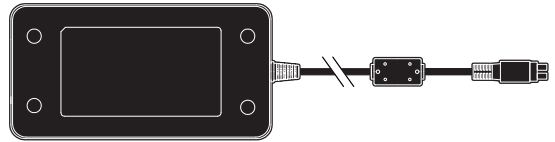




**KM216HIII c200**

**963GE020000106**

POWER SUPPLY  
(for technical specifications, see [paragraph 9.1](#))



**26100000000311**

POWER CORD SCHUKO PLUG  
length = 2 m  
(see [paragraph 9.6](#))



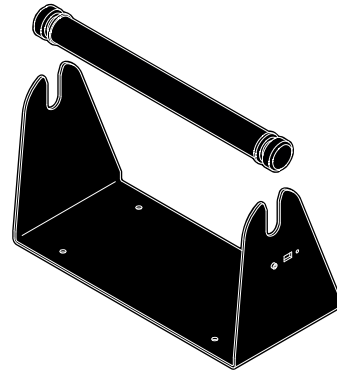
**26100000000313**

POWER CORD UK PLUG  
length = 2 m  
(see [paragraph 9.6](#))



**974AS010000303**

PAPER ROLL HOLDER



**26500000000352**

SERIAL CABLE DB9M-DB9F  
length = 1.8 m



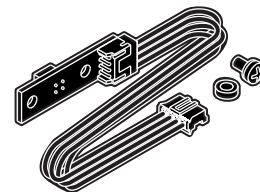
**26500000000356**

USB CABLE TYPE A-B  
length = 1.8 m



**26300000000602**

LOW PAPER KIT  
cable + low paper sensor board





## 12 TECHNICAL SERVICE

In case of failure, contact the technical service accessing the website [www.custom4u.it](http://www.custom4u.it) and using the support tools on the homepage. It is advisable to keep the identification data of the product at hand.

The product code, the serial number and the hardware release number can be found on the product label (see [paragraph 3.5](#)).

The firmware release number (SCODE) can be found:

- on the setup report (see [paragraph 6.1](#))
- connecting the device to a PC and starting the "PrinterSet" tool (see [paragraph 6.2](#))
- by consulting the "setup.ini" file (see [paragraph 6.3](#))









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