USER MANUAL

PLUS4

CUSTOM®

CUSTOM S.p.A.
Via Berettine 2/B
43010 Fontevivo (PARMA) - Italy
Tel. : +39 0521-680111
Fax : +39 0521-610701
http: www.custom.biz

Customer Service Department:
www.custom4u.it

© 2023 CUSTOM S.p.A. – Italy.
All rights reserved. Total or partial reproduction of this manual in whatever form, whether by printed or electronic means, is forbidden. While guaranteeing that the information contained in it has been carefully checked, CUSTOM S.p.A. and other entities utilized in the realization of this manual bear no responsibility for how the manual is used. Information regarding any errors found in it or suggestions on how it could be improved are appreciated. Since products are subject to continuous check and improvement, CUSTOM S.p.A. reserves the right to make changes in information contained in this manual without prior notification.

The pre-installed multimedia contents are protected from Copyright CUSTOM S.p.A. Other company and product names mentioned herein may be trademarks of their respective companies. Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. CUSTOM S.p.A. assumes no responsibility with regard to the performance or use of these products.

THE IMAGES USED IN THIS MANUAL ARE USED AS AN ILLUSTRATIVE EXAMPLES. THEY COULDN'T REPRODUCE THE DESCRIBED MODEL FAITHFULLY.

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 EN55024/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.

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.

FCC STATEMENT
(FEDERAL COMMUNICATIONS COMMISSIONS).

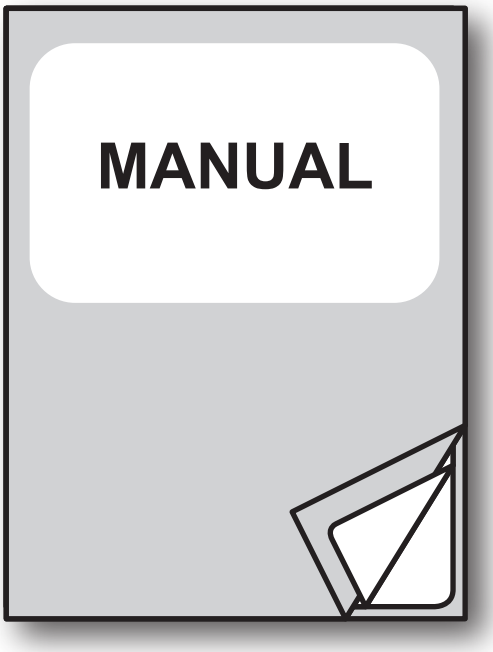
This note is valid only for device bringing FCC trademark.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:
The devices may not cause harmful interference.
The devices must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:
Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

Modifications to this product not authorized by CUSTOM S.p.A. could void the FCC & Industry Canada regulations and negate your authority to operate the product.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



For details on the commands,
refer to the manual with code **772000000002100**

TABLE OF CONTENTS

1 INTRODUCTION 9

2 IDENTIFICATION OF THE MODELS 11

3 DESCRIPTION 13

3.1 Unpacking the device 13
3.2 Device component: external views 14
3.3 Device component: internal view 16
3.4 Product label 17
3.5 Key functions 18
3.6 Status messages 19

4 INSTALLATION 21

4.1 “EASYLOCK” fastening 21
4.2 Connections 24
4.3 Pinout 26
4.4 Serial port setting (PLUS4 STD) 31
4.5 Parallel port setting (PLUS4 9-42 V) 33
4.6 Driver and SDK 37

5 OPERATION 39

5.1 Opening device cover 39
5.2 Adjusting paper width 40
5.3 Paper roll insertion 43

6 CONFIGURATION 45

6.1 Configuration by keys 45
6.2 Configuration by software 47
6.3 Printhead status 49
6.4 Printer status 50
6.5 Communication parameters 51
6.6 Operation parameters 53
6.7 Hexadecimal dump 55

7 MAINTENANCE 57
7.1 Planning of cleaning operations 57
7.2 Cleaning 58
7.3 Firmware upgrade 61

8 SPECIFICATIONS 63
8.1 Hardware specifications 63
8.2 Character specifications 66
8.3 Device dimensions 67
8.4 Dimensions of power supply and power supply cables (optional) 69
8.5 Character sets in CUSTOM/POS emulation 71

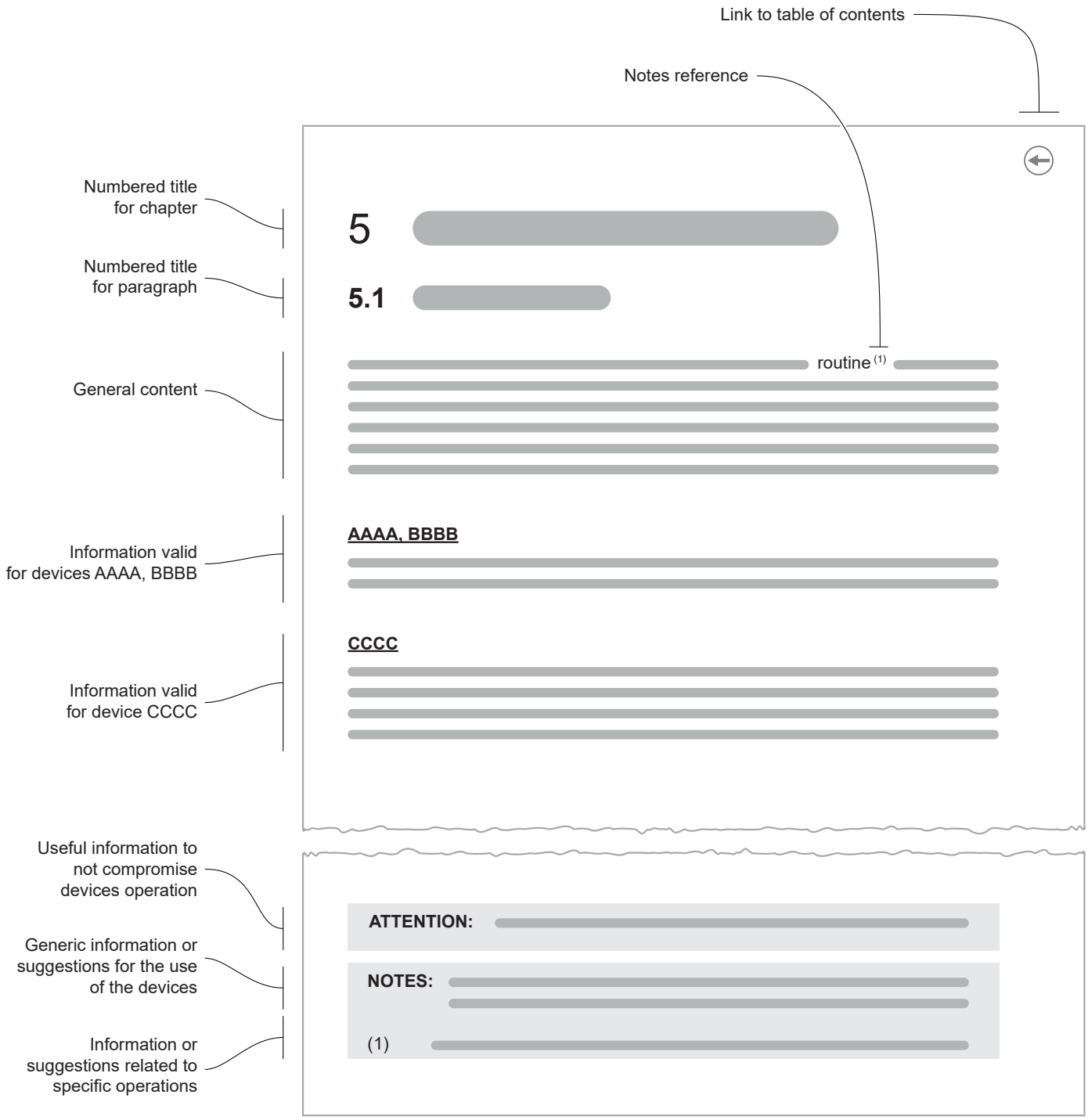
9 CONSUMABLES 73

10 ACCESSORIES 75

11 TECHNICAL SERVICE 77

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

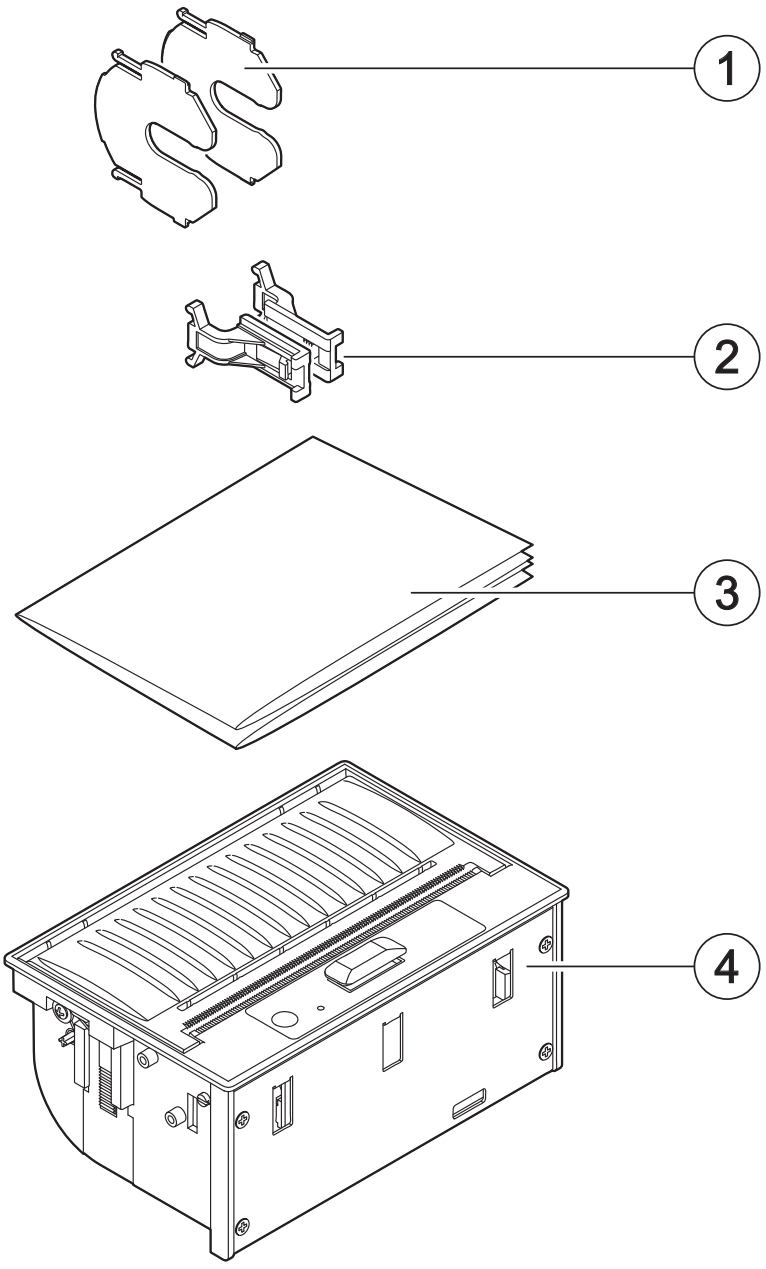
NOMENCLATURE	DESCRIPTION
PLUS4 STD	PLUS4 base configuration with power supply from 5 Vdc to 8 Vdc
PLUS4 9-42 V	PLUS4 with the optional extended range module plugged (from 9 Vdc to 42 Vdc)

3 DESCRIPTION

3.1 Unpacking the device

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.

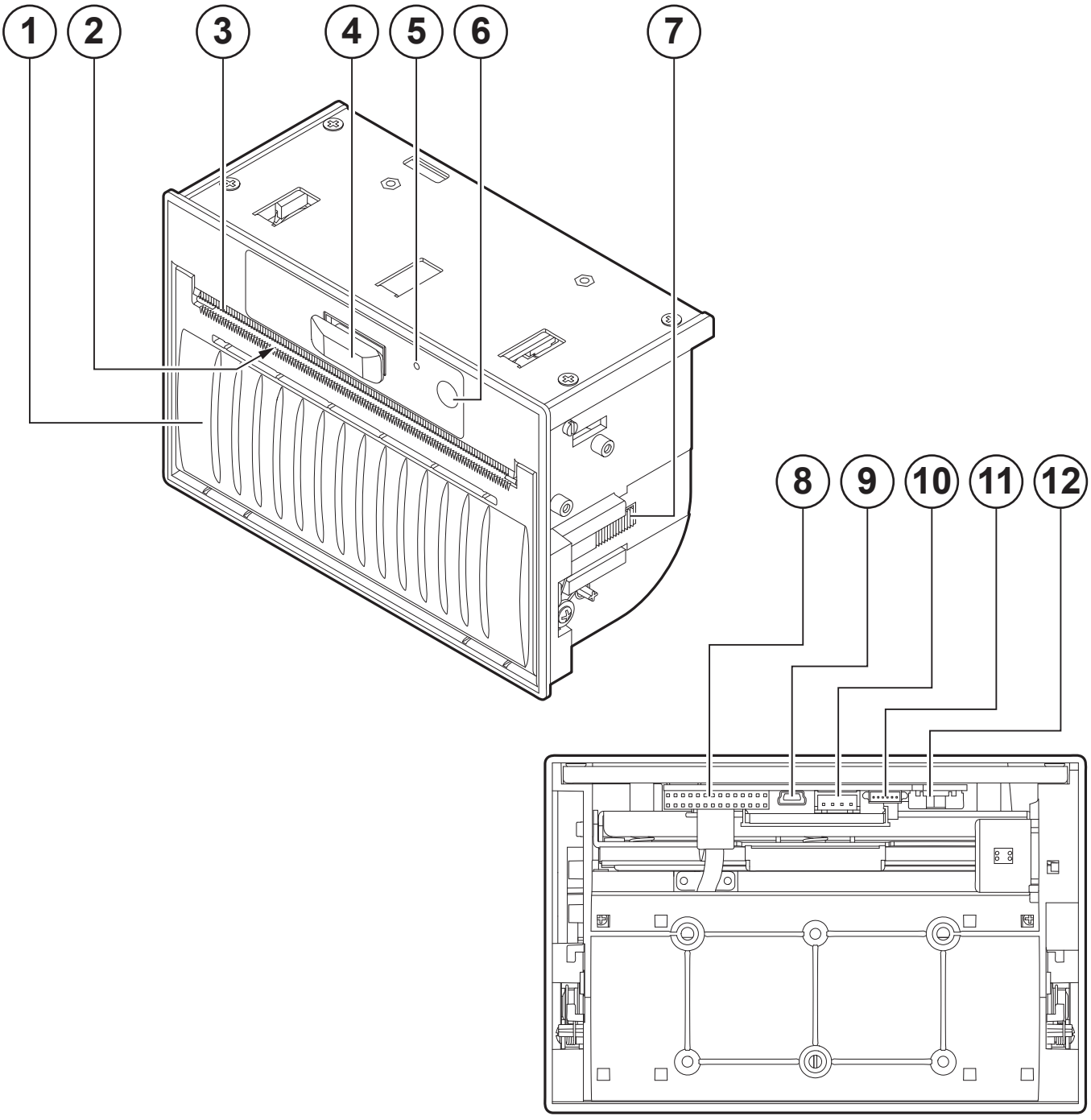
1. Paper adjustment guides
   (already assembled)
2. Fixing hooks
3. Documentation (installation instruction)
4. Device



3.2 Device component: external views

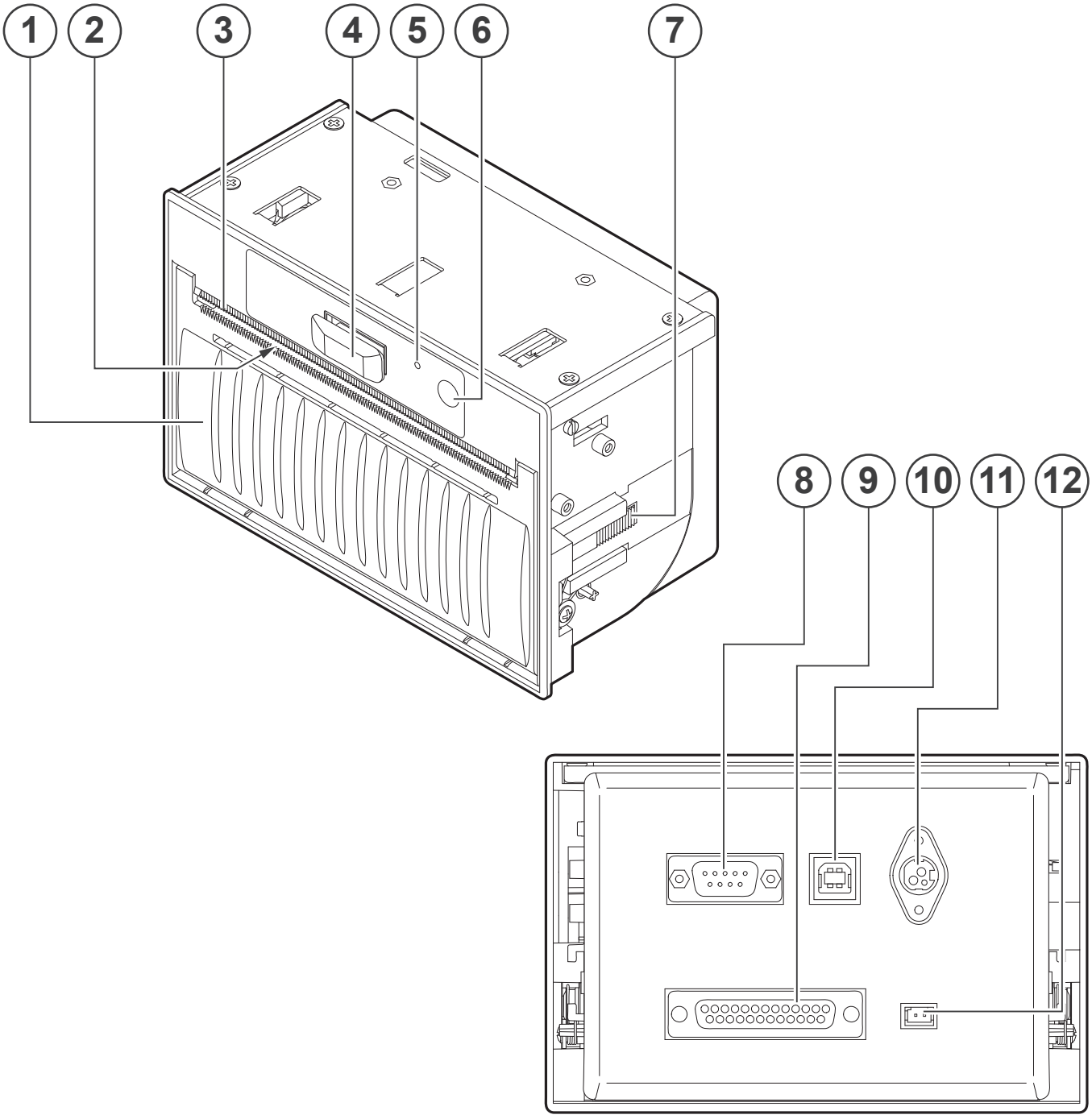
PLUS4 STD

1. Front cover
2. Paper output
3. Serrated blade for manual tear off
4. Release lever for cover
5. Status LED
6. FEED key
7. Seat for fixing hook
8. Connector for extended range module (optional)
9. USB interface connector (miniUSB)
10. Power supply connector
11. RS232/TTL serial interface connector
12. Switch for serial interface setting



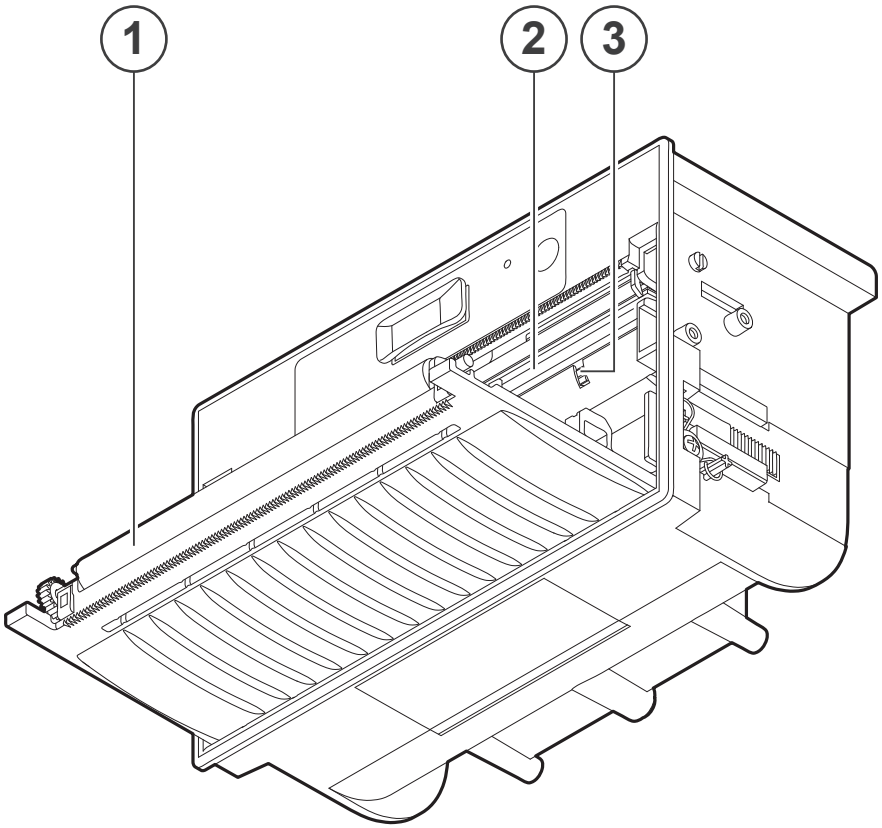
PLUS4 9-42 V

1. Front cover
2. Paper output
3. Serrated blade for manual tear off
4. Release lever for cover
5. Status LED
6. FEED key
7. Seat for fixing hook
8. RS232/TTL serial interface connector
9. Parallel interface connector
10. USB interface connector (type B)
11. Power supply connector
12. Connector for external device (optional)



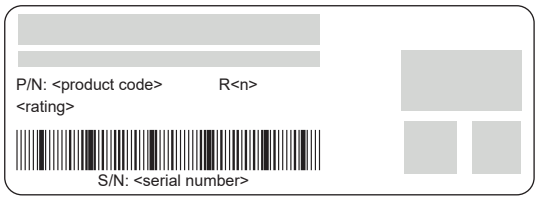
3.3 Device component: internal view

1. Printing roller
2. Printing head with temperature sensor
3. Sensors for detecting paper presence



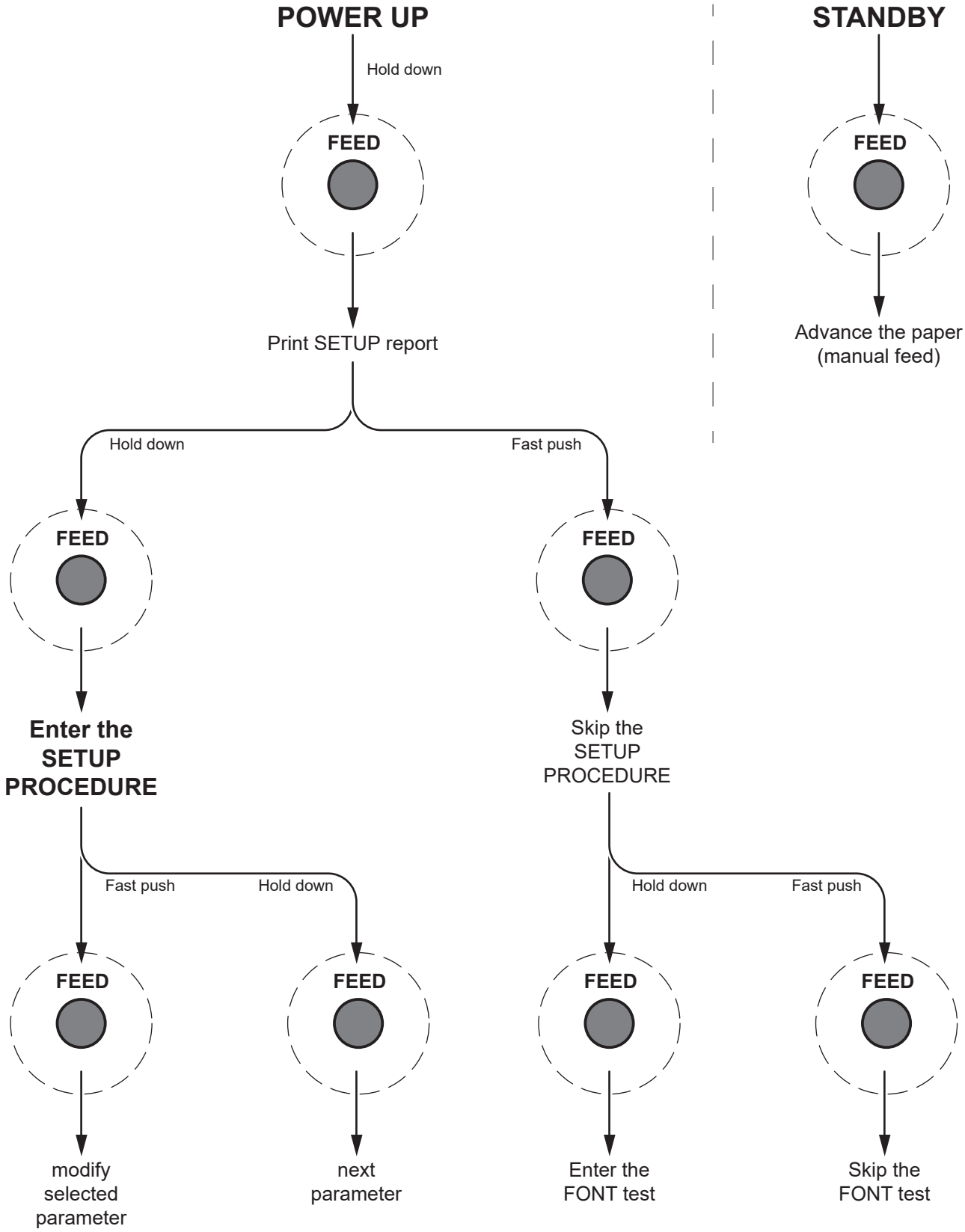
3.4 Product label

The main data used to identify the machine are shown on the label attached to the bottom 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).



3.5 Key functions

The following figures show the functions of key according to the operating condition of the device.



3.6 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.

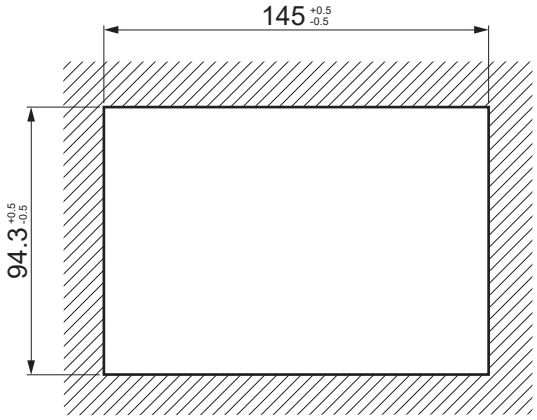
STATUS LED		DESCRIPTION
-	OFF	PRINTER OFF
GREEN	ON	PRINTER ON: NO ERROR
GREEN COMMUNICATION STATUS	x 1	RECEIVE DATA
	x 2	RECEPTION ERRORS (PARITY, FRAME ERROR, OVERRUN ERROR)
	x 3	COMMAND NOT RECOGNIZED
	x 4	COMMAND RECEPTION TIME OUT
YELLOW RECOVERABLE ERROR	x 2	PRINTHEAD OVERHEATED
	x 3	PAPER END
	x 5	POWER SUPPLY VOLTAGE INCORRECT
	x 6	COVER OPEN
RED UNRECOVERABLE ERROR	x 3	RAM ERROR
	X 4	FLASH MEMORY ERROR

4 INSTALLATION

4.1 “EASYLOCK” fastening

The device includes two plastic hooks for the “Easylock” fastening. This system allows to fix the device to panels of variable thickness from a minimum of 3 mm and a maximum of 8 mm and requires no tools.
To use the fixing hooks, proceed as follows. All the dimensions shown in following figures are in millimetres.

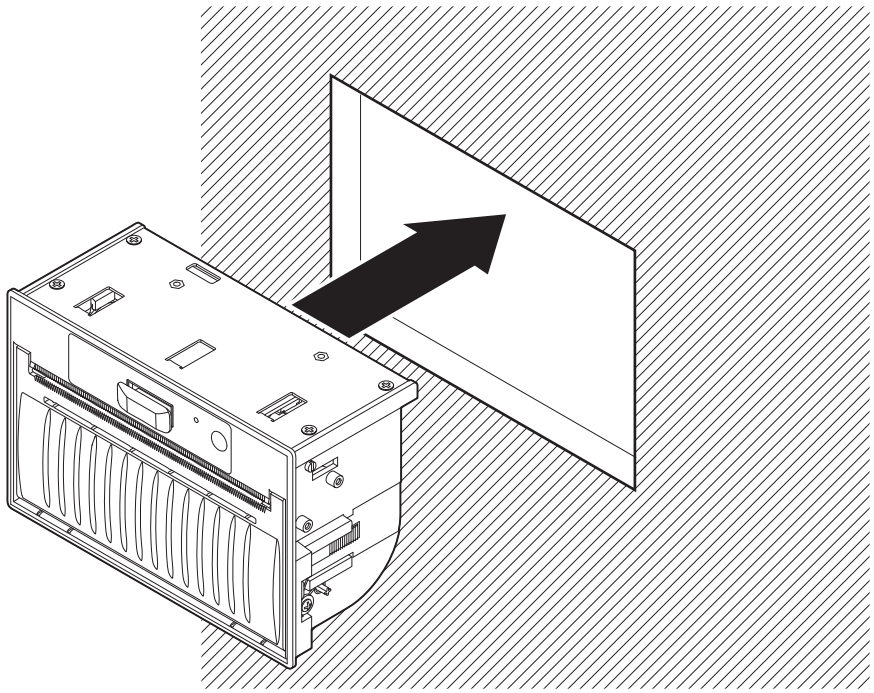
1



ATTENTION:
Prepare the hole in the panel correctly as shown in the figure in order to avoid deformation and torsion of the device which could compromise its operation.

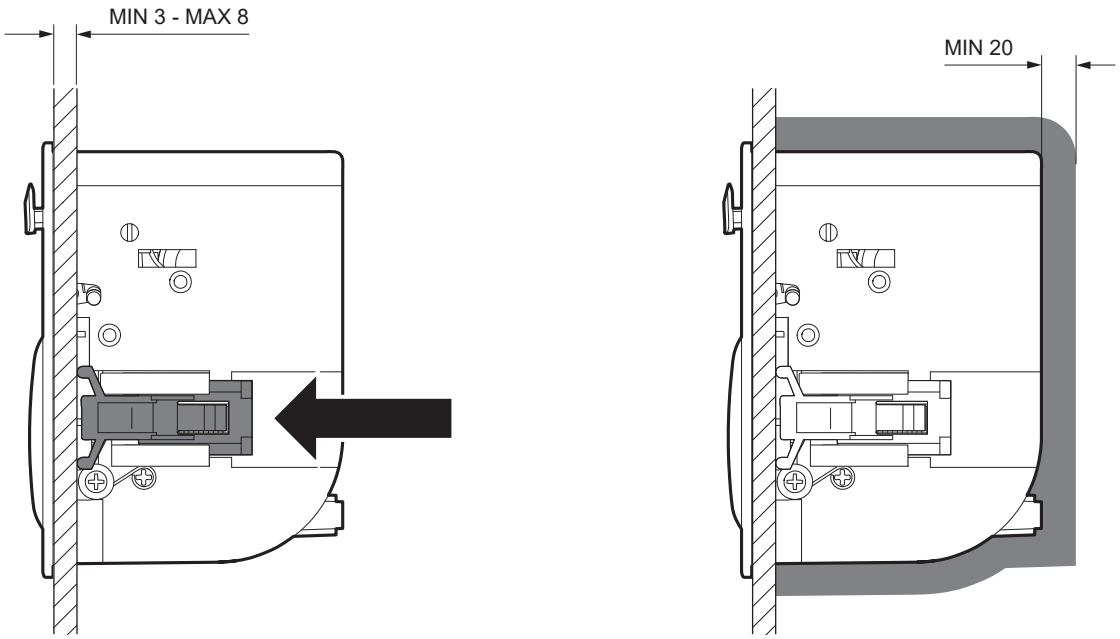
Make a panel cutting for the device housing with the measurements shown in the figure.

2



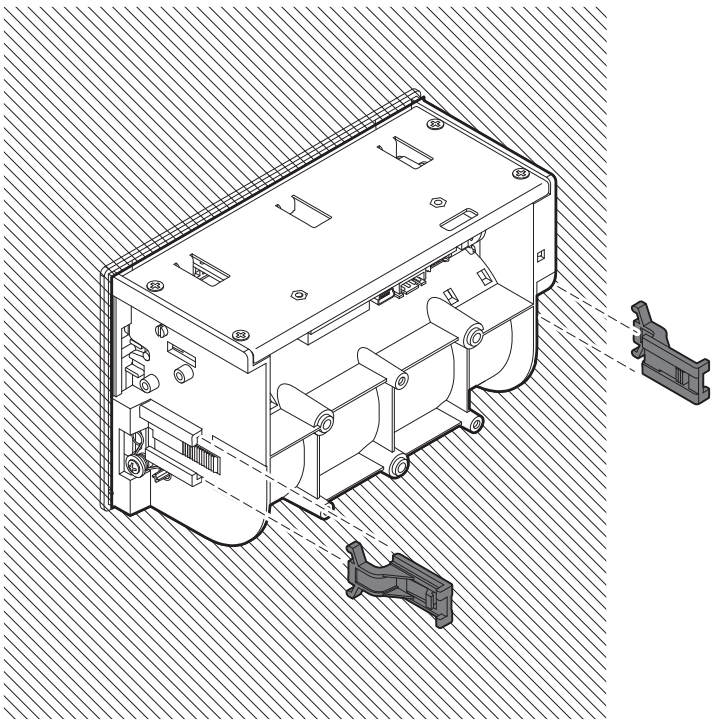
Insert the device inside the panel.

3



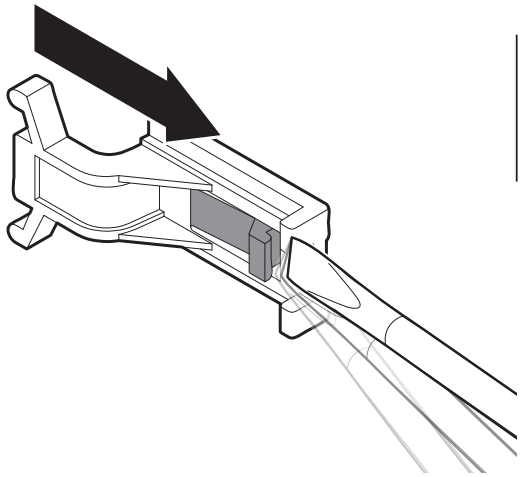
Push the two fixing hooks to strike the panel.
Make sure to leave adequate free space around the device of at least 2cm.

4



Insert the fixing hooks into the seat
on both the device sides.

5

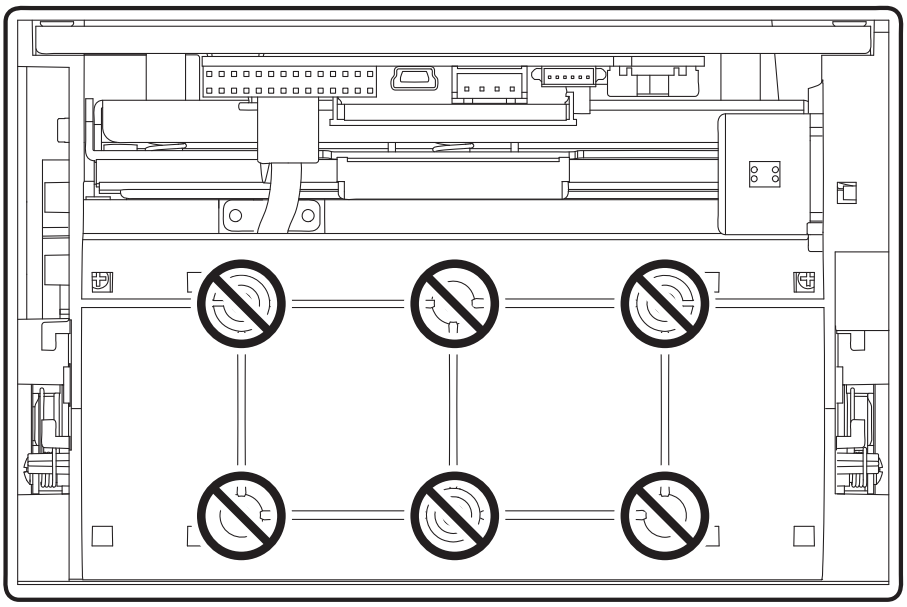


ATTENTION:
While using the screwdriver, be carefull not to damage the device components.

To remove the fixing hooks lift the lever shown in figure with a small screwdriver.

PLUS4 STD

The six holes on the back must not be used for fixing the device to a panel.
These holes are reserved for the assembly of the extended range module supplied as an accessory (see chapter 10).

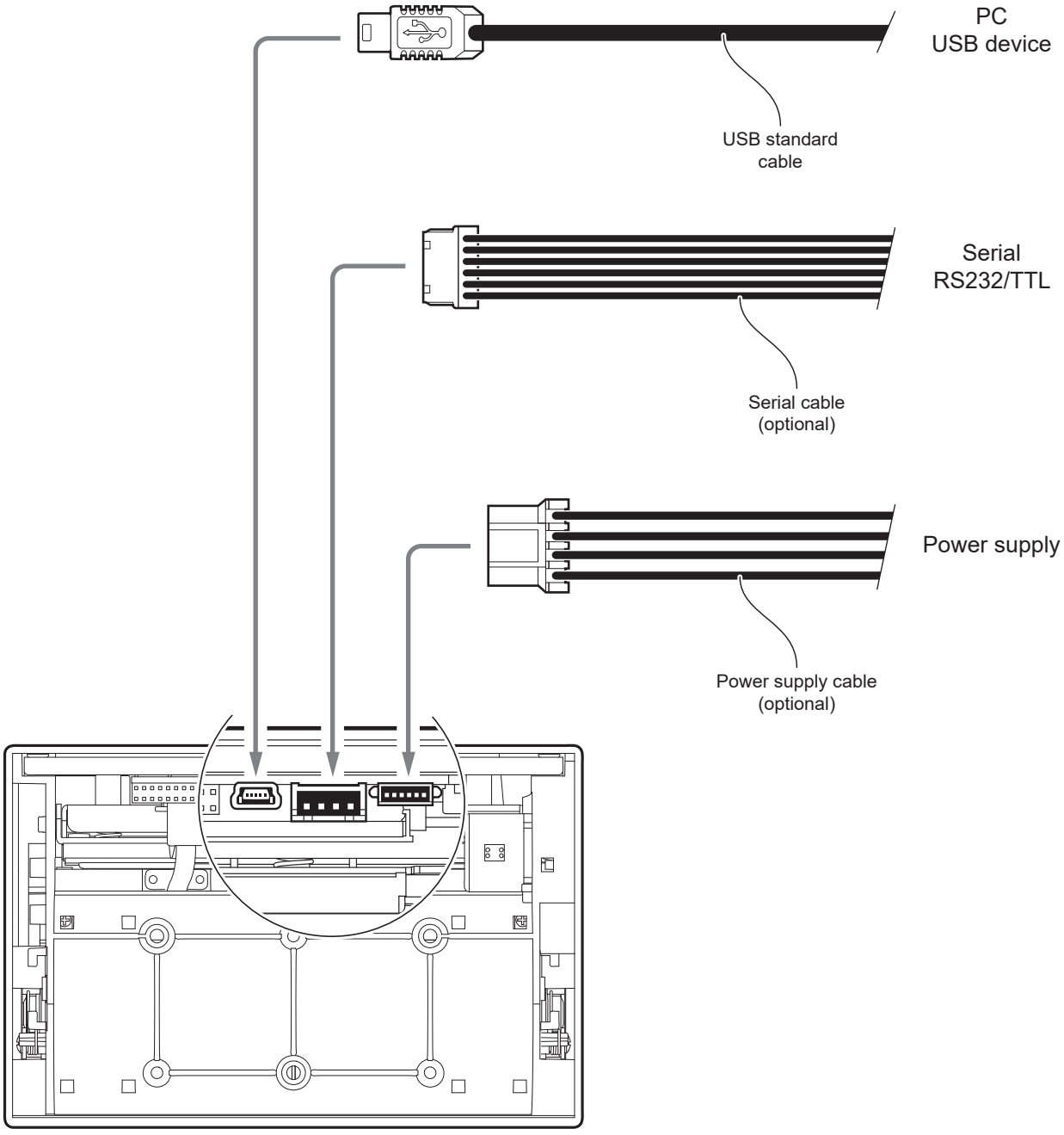


4.2 Connections

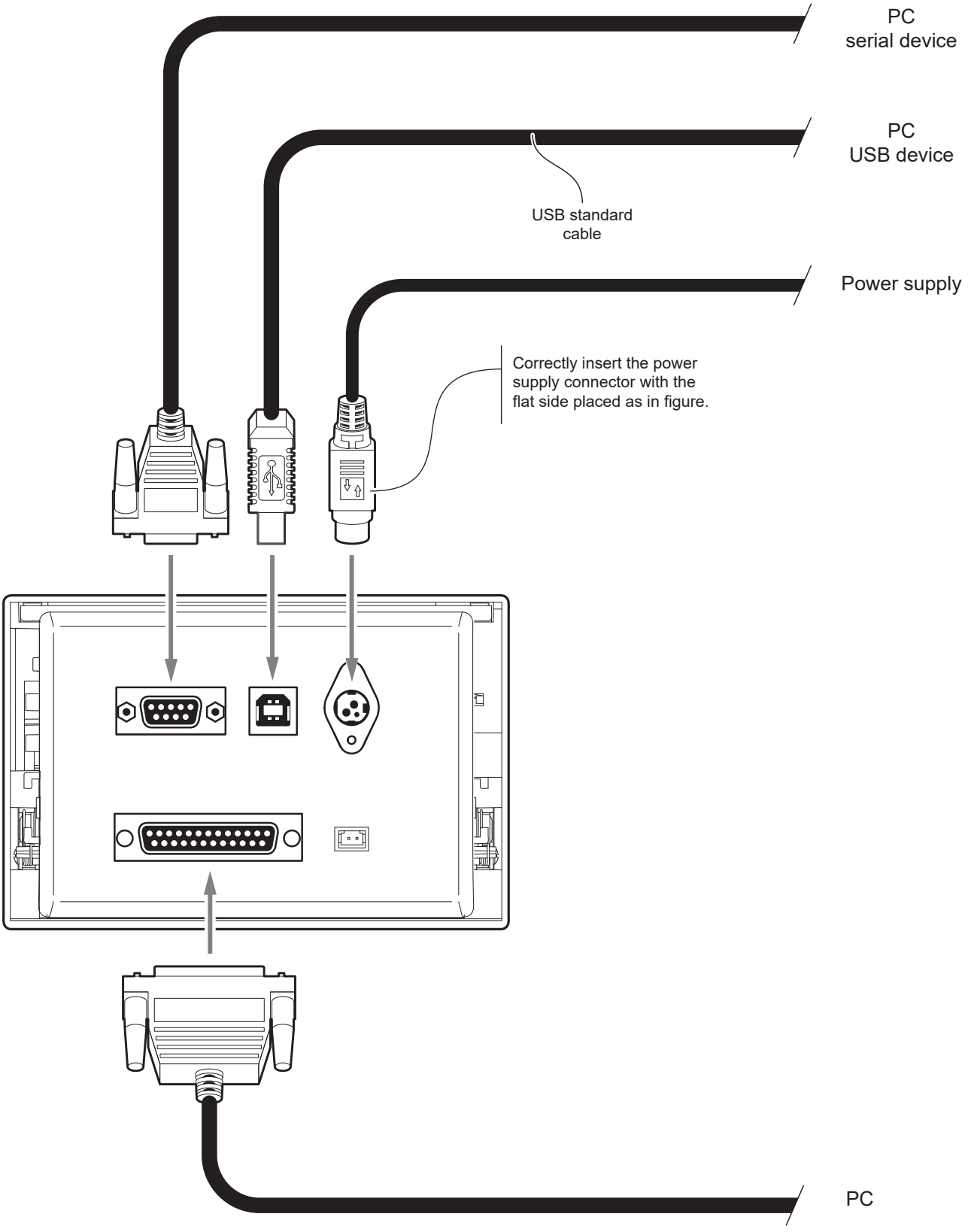
The following figures show the possible connections for device. When the RS232 and USB communication cables are connected to the device at the same time, communication takes place via the USB port.

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

PLUS4 STD

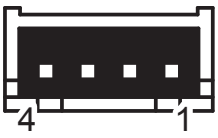


PLUS4 9-42 V


PC
serial device
PC
USB device
USB standard
cable
Power supply
Correctly insert the power
supply connector with the
flat side placed as in figure.
PC

4.3 Pinout

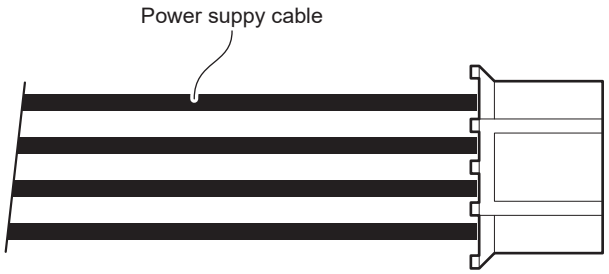
PLUS4 STD



POWER SUPPLY
JST male connector 90° (S4B-XH-A-1)

J13	1	+VL
	2	+VL
	3	GND
	4	GND

The following figure shows the connector pinout of the power supply cable for the device.



Female JST connector series XHP-4

PIN	Cable color	Segnal
1	Red	+VL
2	Orange	+VP
3	Black	GND
4	Black	GND

ATTENTION:
Respect power supply polarity.

MINI USB INTERFACE
Female MINI USB type B connector

J6	1	VPLUG
	2	D0-
	3	D0+
	4	n.c.
	5	GND
	SH1	GND
	SH2	GND
	SH3	GND
	SH4	GND

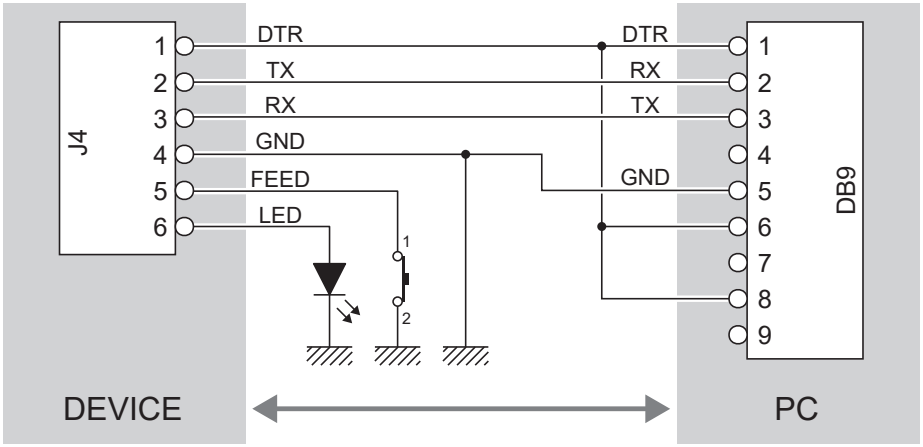
RS232/TTL SERIAL INTERFACE

Molex male connector 53261 series (90°)

J4	1	RT	
	2	TX	During transmission, takes the values -VRS232 and +VRS232 depending on data
	3	RX	During reception, takes the values -VRS232 and +VRS232 depending on data
	4	GND	
	5	EXT-PUSH	
	6	EXT-LEDV	

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 connector 6 pin female and a 9 pin RS232 serial connector:



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

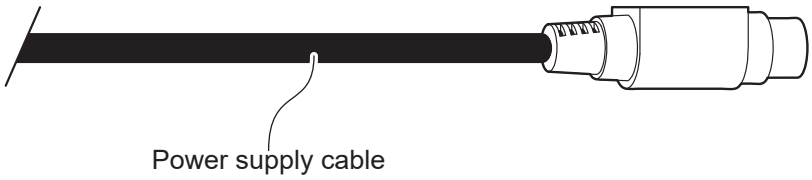
PLUS4 9-42 V

POWER SUPPLY

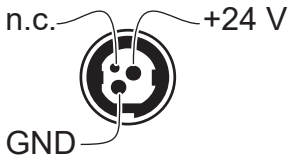
Tripolar female connector

J2	1	GND
	2	+VRE
	3	GND
	4	Frame GND
	5	Frame GND

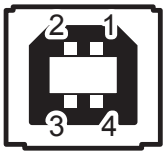
The following figure shows the connector pinout of the power supply cable for the device.



Tripolar male connector



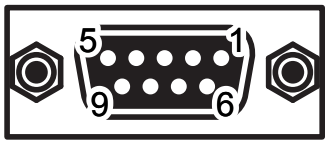
ATTENTION:
Respect power supply polarity.



USB INTERFACE

Female USB type B connector

J5	1	VPLUG	(in)
	2	D0-	(in/out)
	3	D0+	(in/out)
	4	GND	
	SH1	GND	
	SH2	GND	



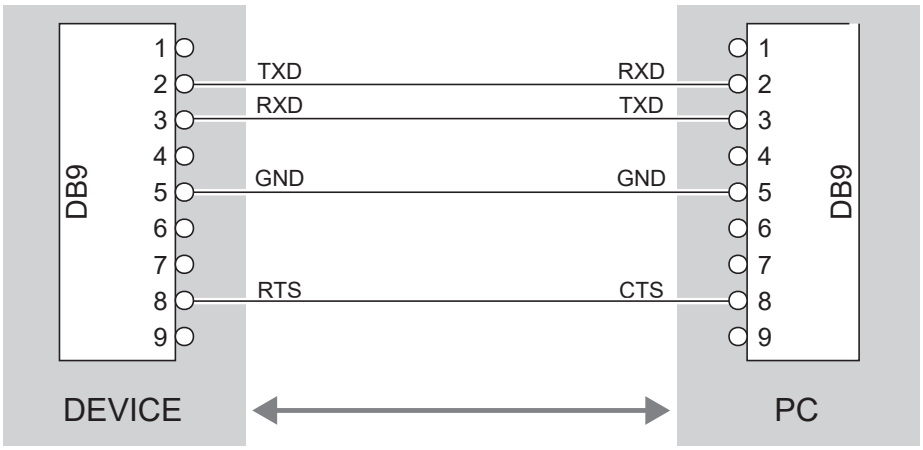
RS232 SERIAL INTERFACE

DB9 female connector

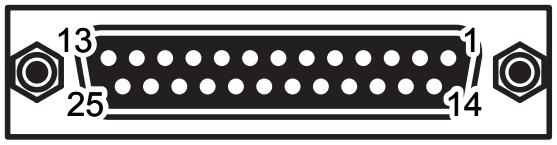
J3	1	n.c.	
	2	TX	During transmission, takes the values -VRS232 and +VRS232 depending on data
	3	RX	During reception, takes the values -VRS232 and +VRS232 depending on data
	4	n.c.	
	5	GND	
	6	n.c.	
	7	n.c.	
	8	RTS	When “1”, printer is ready to receive data
	9	n.c.	
	SH1	GND	
	SH2	GND	

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 connector 6 pin female and a 9 pin RS232 serial connector:



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



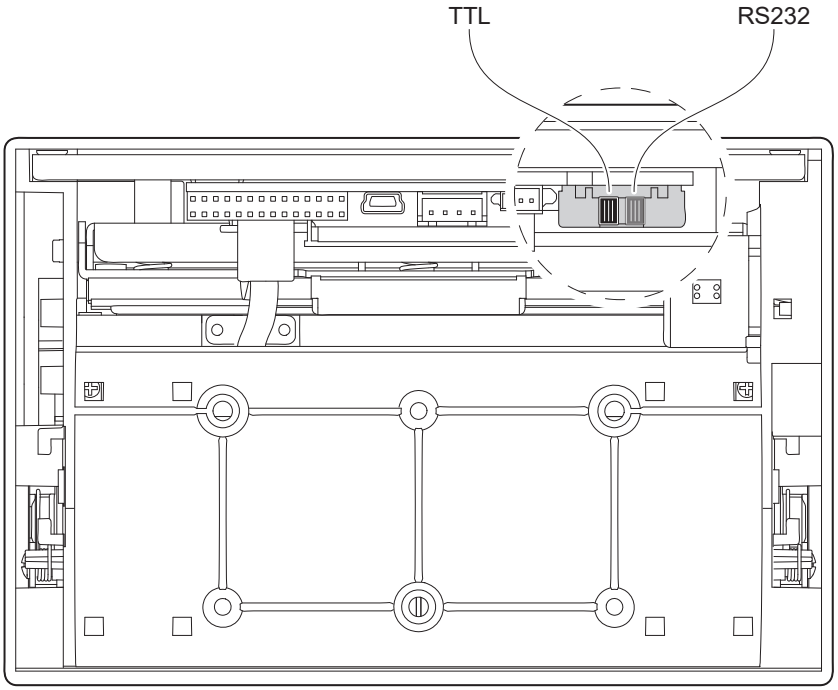
PARALLEL CENTRONICS/TTL INTERFACE

DB25 female connector

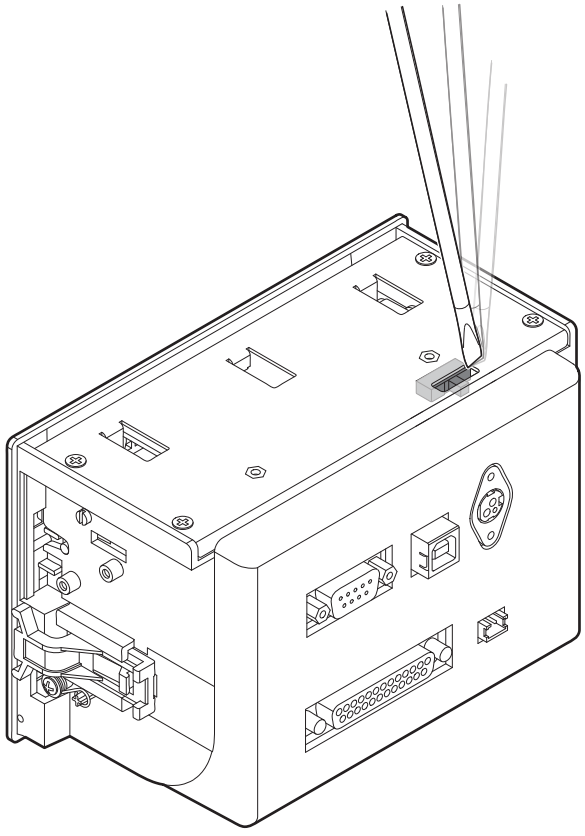
	1	STROBE	(in)
	2	AD0	(in)
	3	AD1	(in)
	4	AD2	(in)
	5	AD3	(in)
	6	AD4	(in)
	7	AD5	(in)
	8	AD6	(in)
	9	AD7	(in)
	10	ACK	(out)
	11	BUSY	(out)
	12	PAP-END	(out)
	13	SELECT	(out)
J7	14	n.c.	
	15	ERROR	(out)
	16	n.c.	
	17	GND	
	18	n.c.	
	19	GND	
	20	GND	
	21	GND	
	22	GND	
	23	GND	
	24	GND	
	25	GND	
	SH1	GND	
	SH2	GND	

4.4 Serial port setting (PLUS4 STD)

To set the serial port of the device, slide the switch shown in figure in the correct position.



For the PLUS4 9-42 V model, slide the switch by using a small screwdriver passing through the hole on the upper cover of the device. Be carefull not to damage the device components.

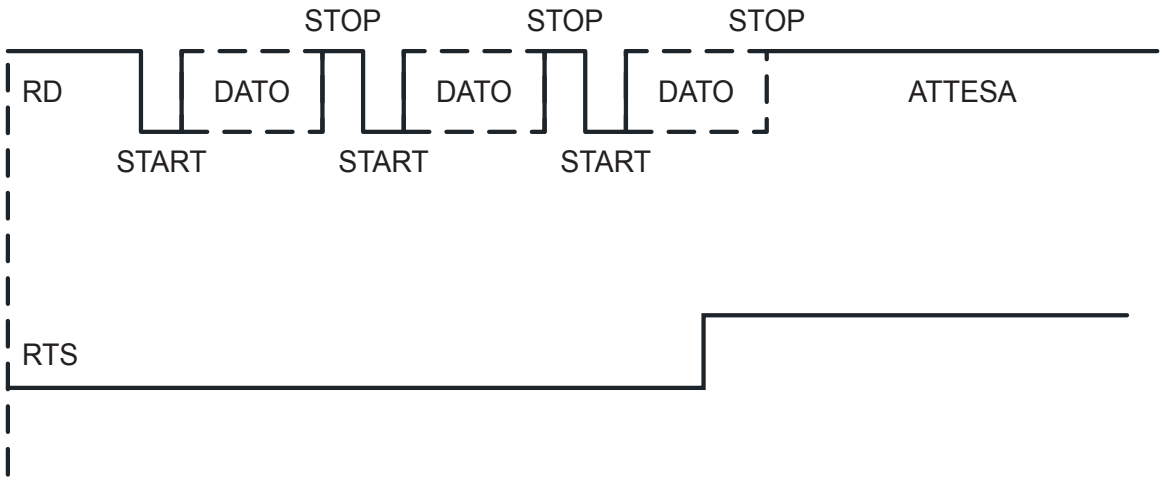


In the serial protocol, the signals which distinguish the communication are TD, RD, and RTS if the RTS/CTS protocol has been selected while, if the XON/XOFF protocol has been selected, the signals are TD and RD.

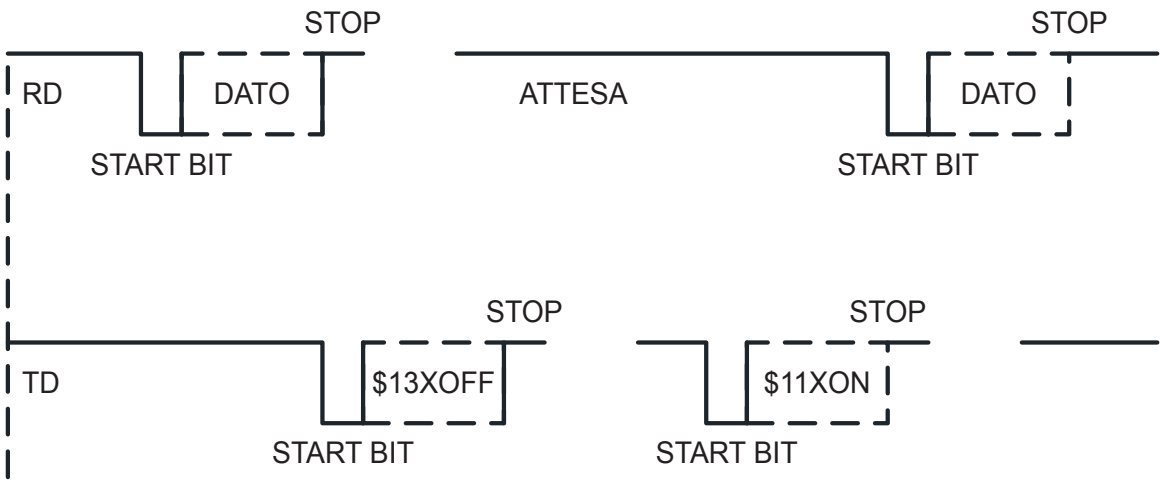
Transmission format

The bit 7 is present only if the setup parameter “RS232 data lenght” is set on the value “8 bits/car”. The Parity bit is present only if the setup parameter “RS232 parity” is not set on the value “None”.

RTS/CTS Protocol



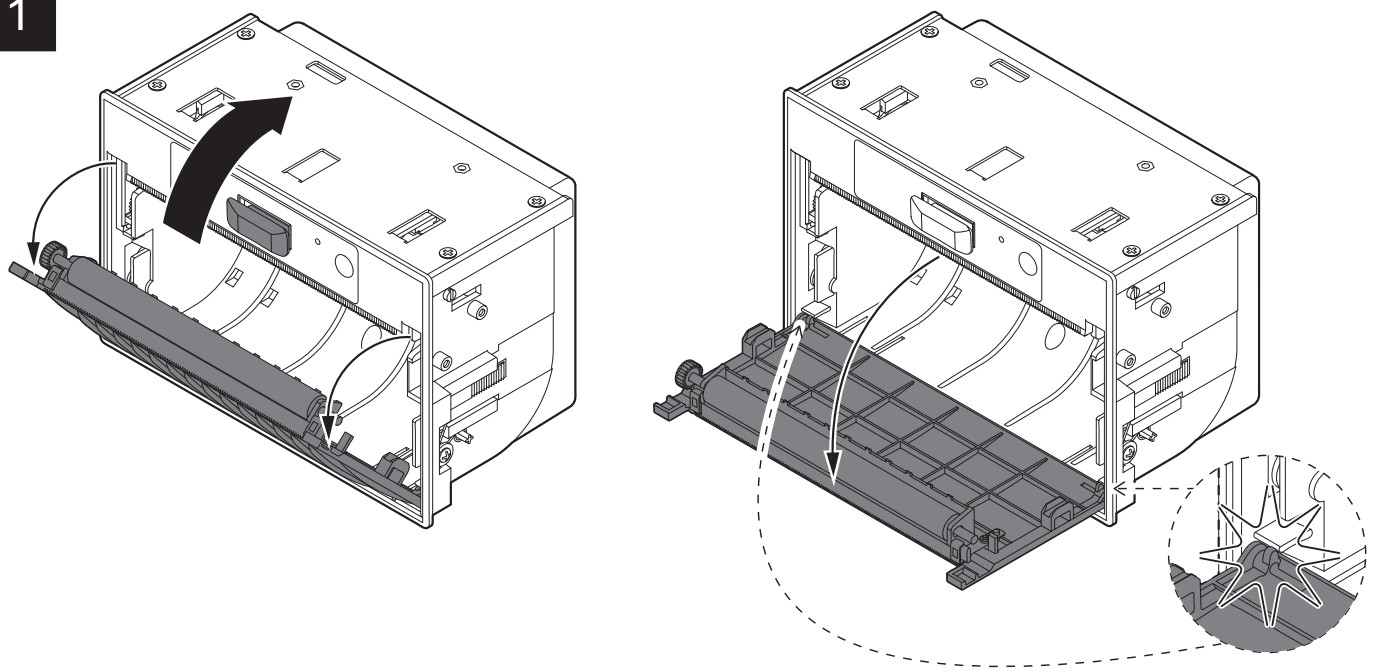
XON/XOFF protocol



4.5 Parallel port setting (PLUS4 9-42 V)

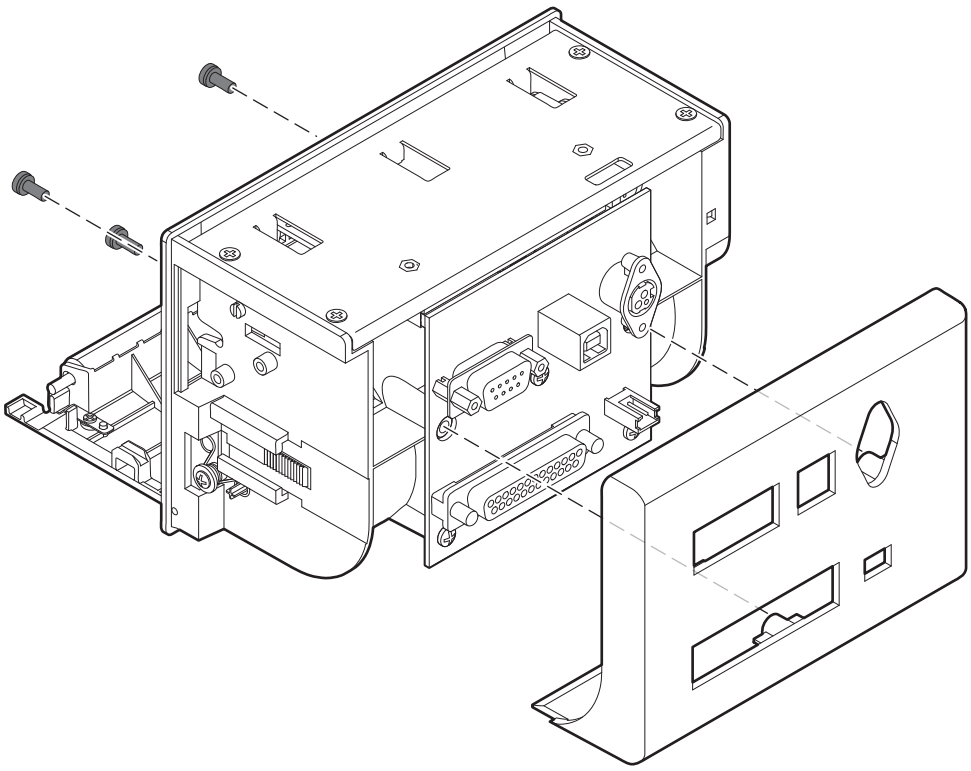
To set the parallel port of the device, proceed as follows.

1



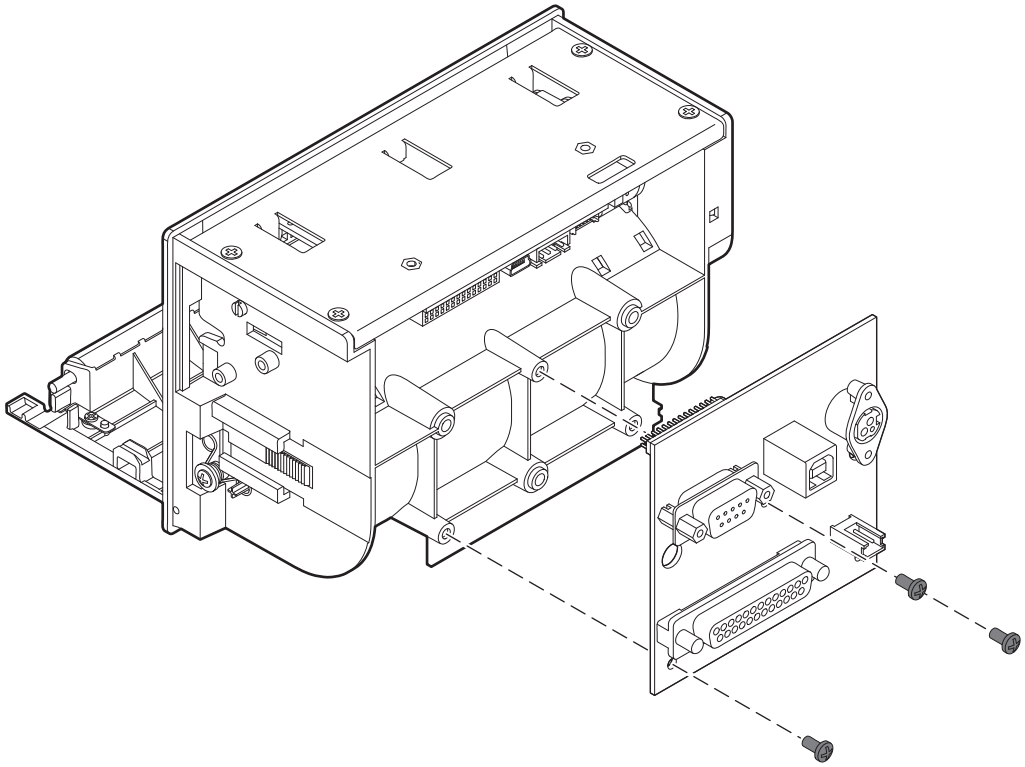
Open the front cover
(see paragraph 5.1).

2



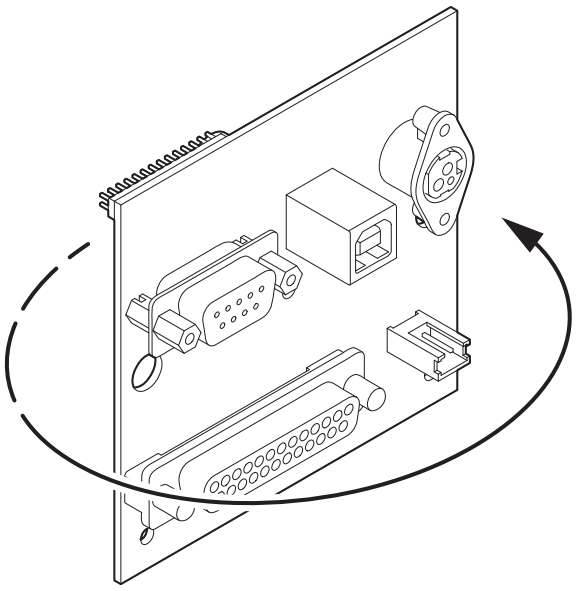
Unscrew the 3 fixing screws
and remove the rear cover.

3



Unscrew the 3 fixing screws and remove
the board for extended range module.

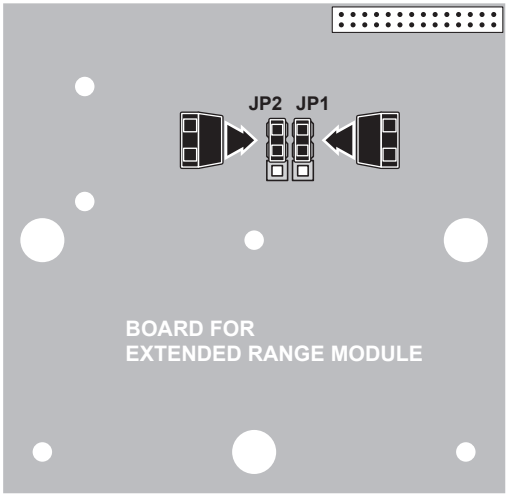
4



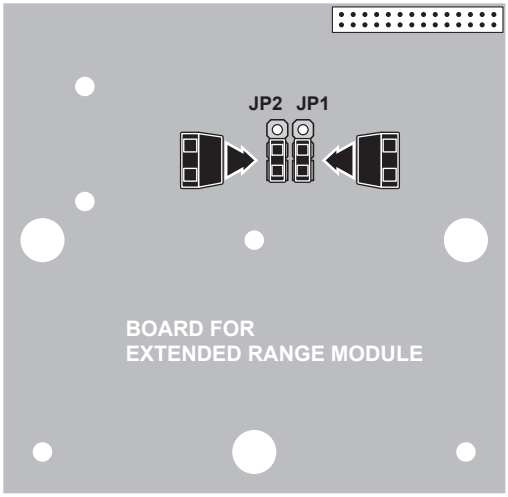
Rotate the board.

5

TTL parallel interface

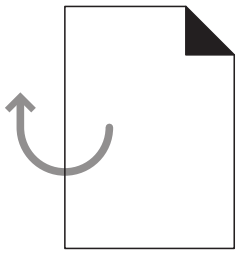


Centronics parallel interface



Close the jumpers JP1 and JP2 as shown in figure
according to the desiderd setting.

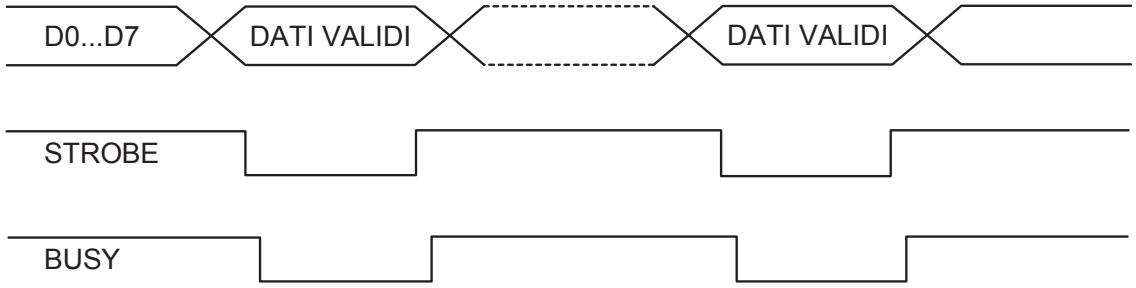
6



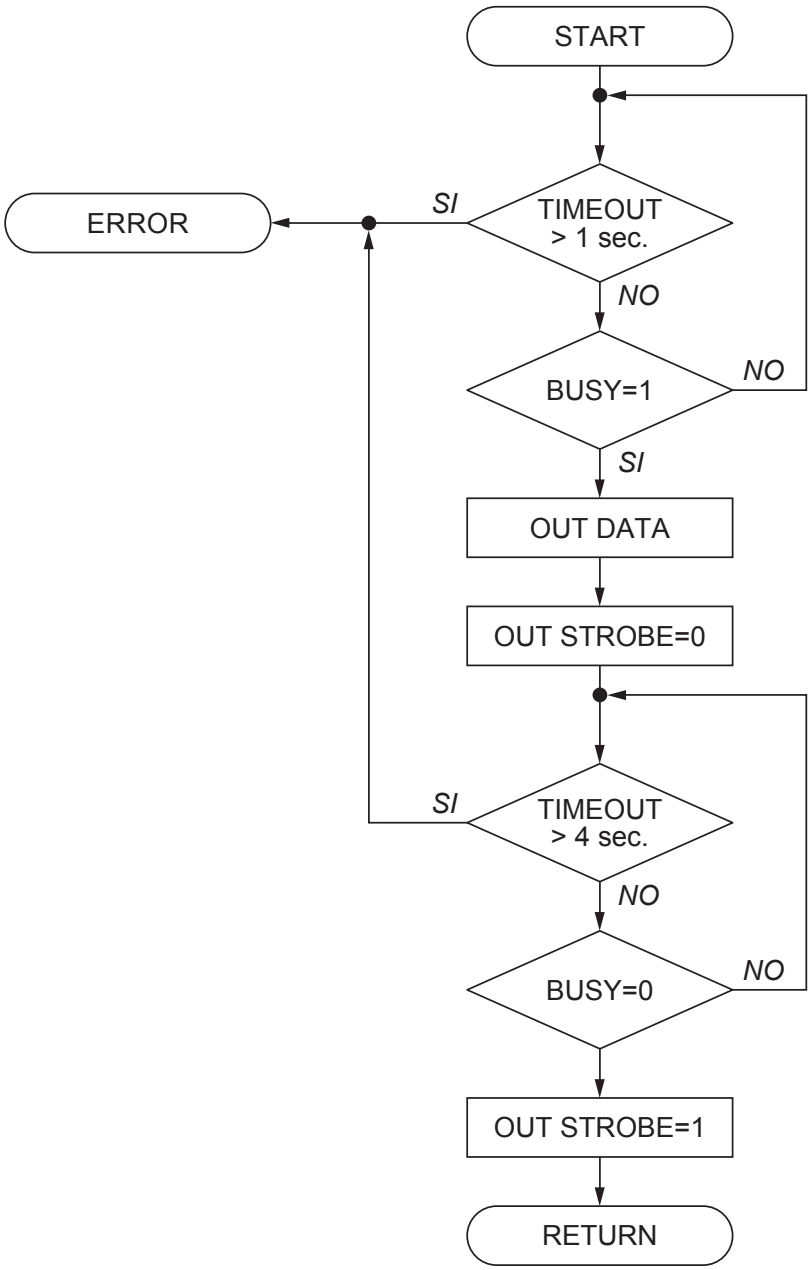
Assemble the device by reversing
the previous steps,

For models with parallel TTL interface, the communication signals are: 8 bit DATA BUS, STROBE (indicate the data validity) and BUSY (indicate that the device is ready to receive data).

Transmission format



Flow diagram



4.6 Driver and SDK

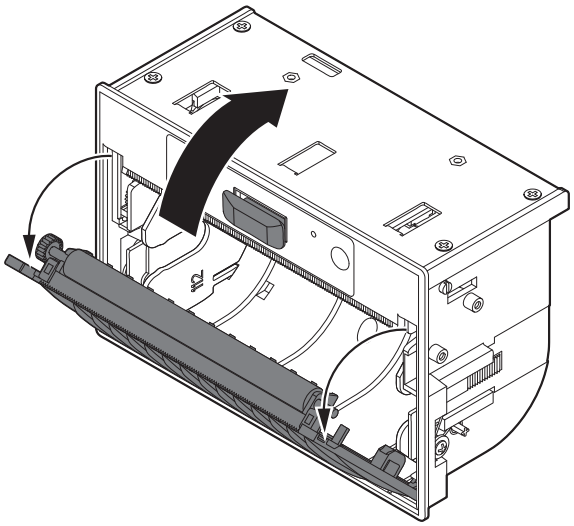
The drivers for the following operating system are available in the website www.custom4u.it.

OPERATING SYSTEM	DESCRIPTION	INSTALLATION PROCEDURE
Windows	Driver for Windows 7 (32/64bit)	From the Start menu, press Run and type-in the path where the SW was saved on your PC, then click OK. Follow the instructions that appear on the screen to install the driver.
	Driver for Windows 8 (32/64bit)	
	Self-installing driver for Virtual COM (32/64bit)	
Linux	Driver CUPS (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	Library for CustomAndroidAPI	Extract the zipped folder to the destination path desired. Follow the instructions present in the software package that you downloaded on how to install and use the library.

5 OPERATION

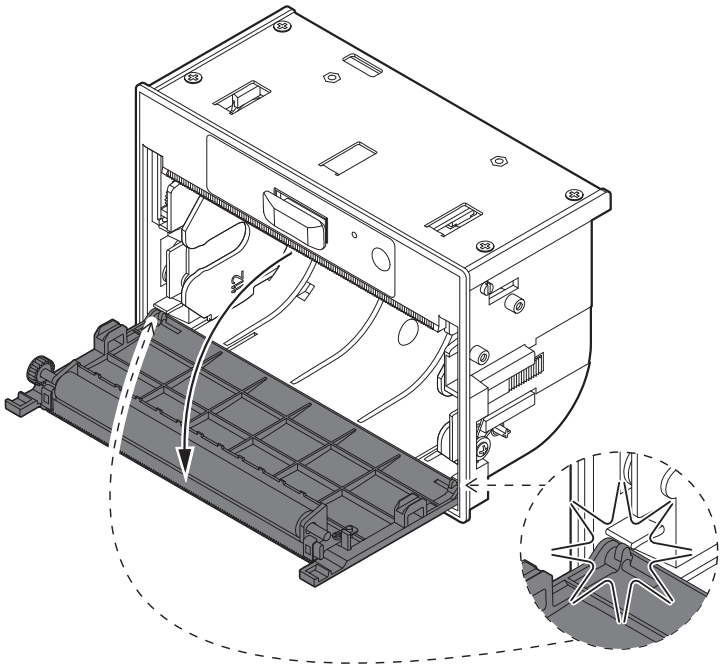
5.1 Opening device cover

1



Lift the release lever
to unlock the front cover.

2



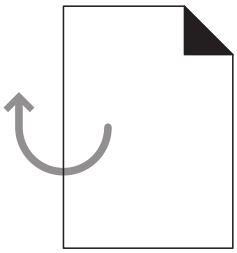
Completely open the front cover
to the maximum opening position.

5.2 Adjusting paper width

The device includes two plastic guides for the adjustment of paper width to 114 mm, 112 mm, 82.5 mm or 80 mm.

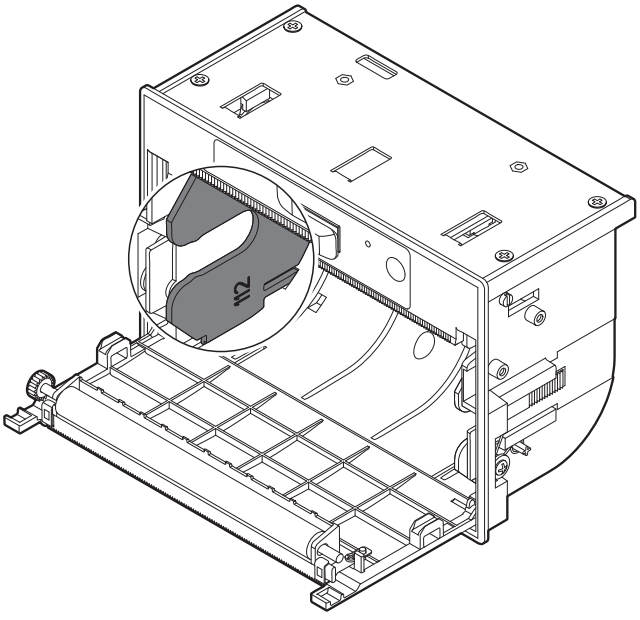
To adjust the paper width proceed as follows. The assembly procedure for the adapter guides is the same for all the device models.

1



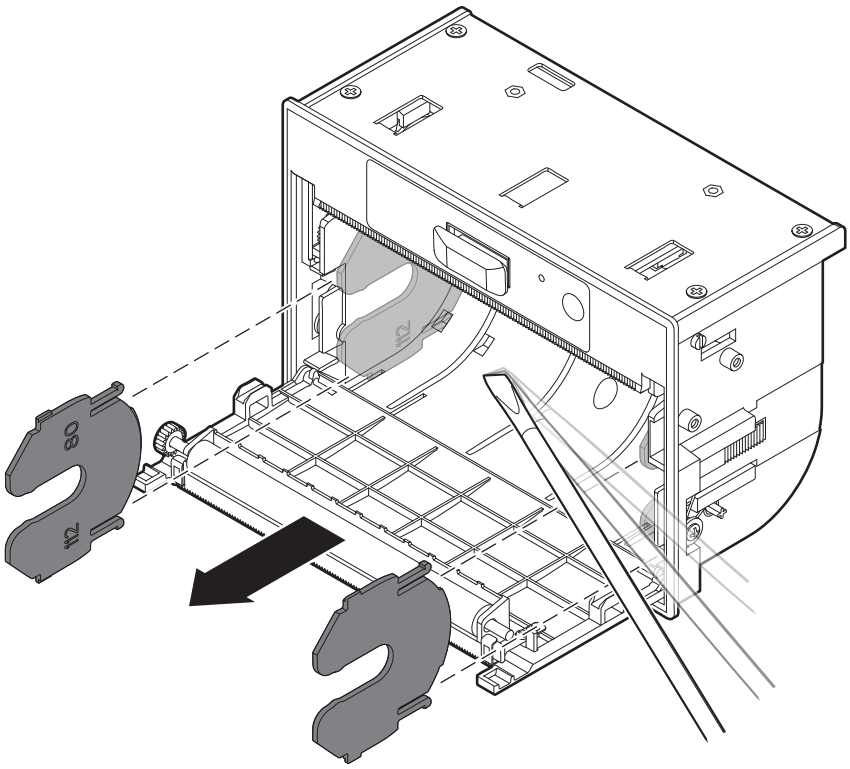
Open the front cover
(see paragraph 5.1).

2



The two guides are assembled in order to manage 112 mm paper width.
If you need a different value of paper width, proceed with the following steps.

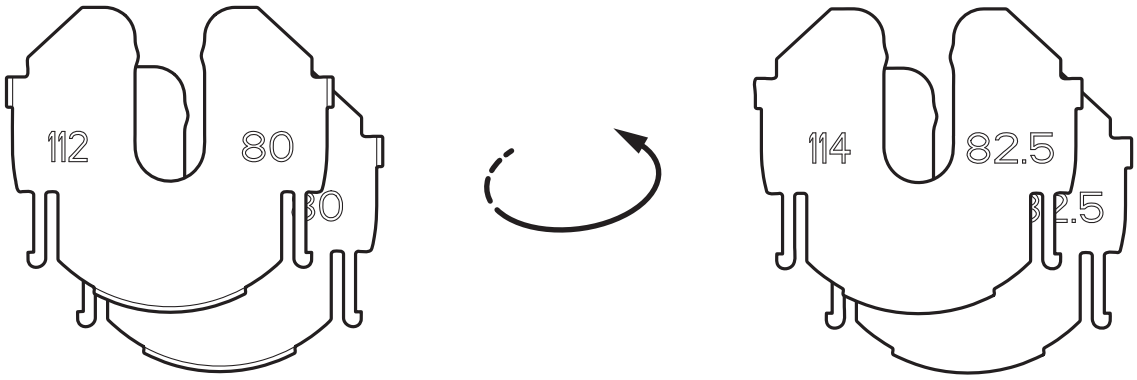
3



ATTENTION:
While using the screwdriver, be carefull not to damage the two guides and the paper compartment.

Remove the two guides by gently levering with a small screwdriver at the point shown in the figure.

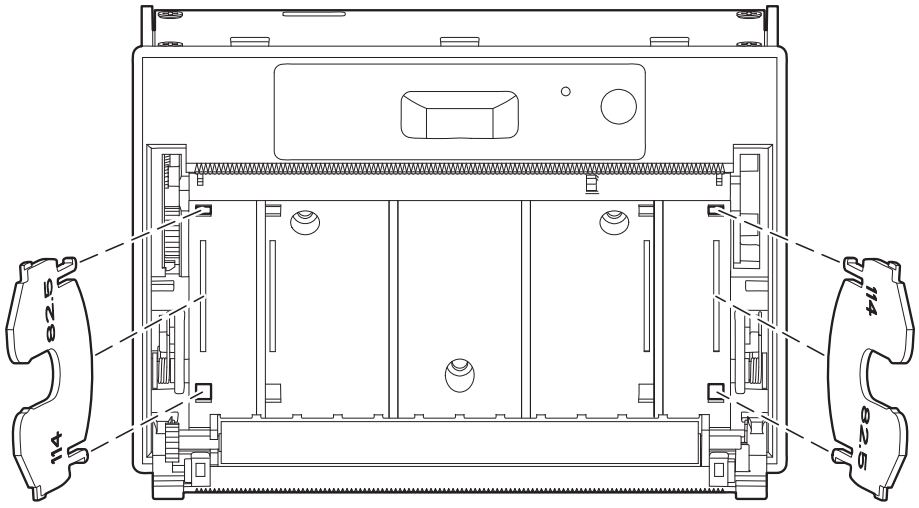
4



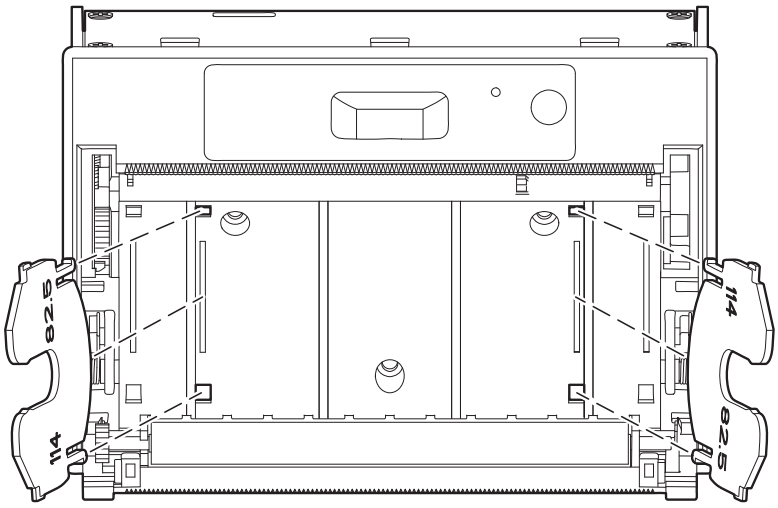
Find the side of the two guides with the paper width desired.

5

112 mm or 114 mm paper width



80 mm or 82.5 mm paper width

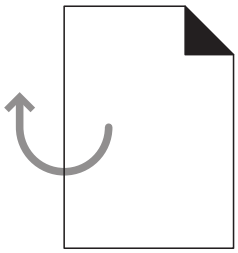


Hook the guides in the narrow pair of holes or in the wide pair of holes
with the correct side facing inwards.

5.3 Paper roll insertion

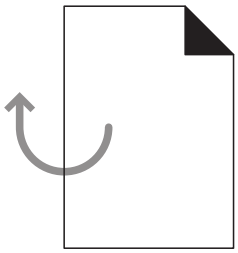
At every change of paper roll, check inside the device. To change the paper roll, proceed as follows.

1



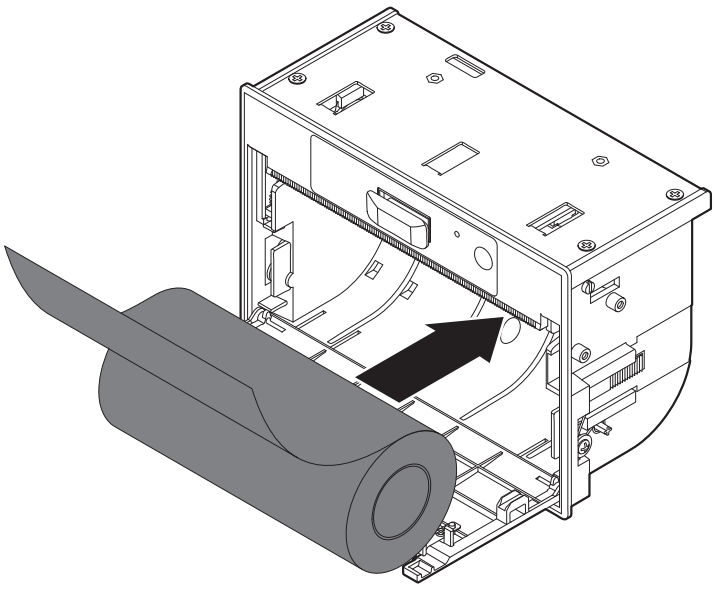
Open the front cover
(see paragraph 5.1).

2



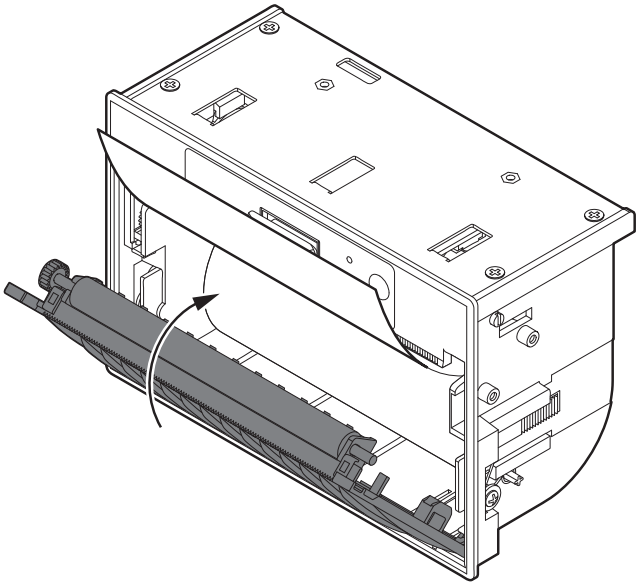
Adjust the paper width
(see paragraph 5.2).

3



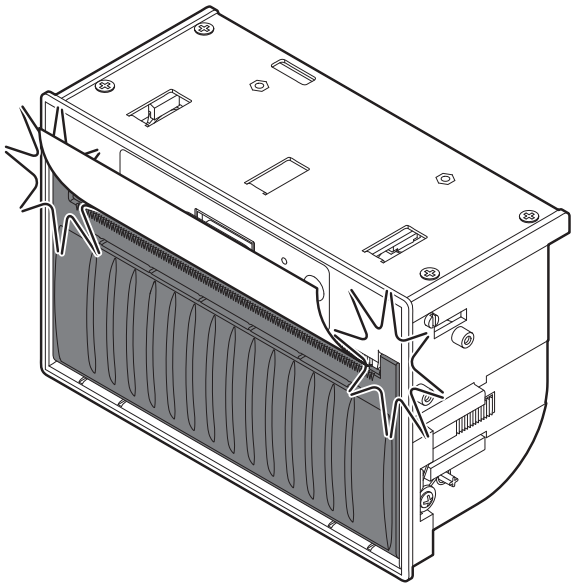
Insert the paper roll so that
it unrolls correctly as shown in figure.

4



Pull out of the paper compartment
a few centimeters of paper.

5



Close the front cover.

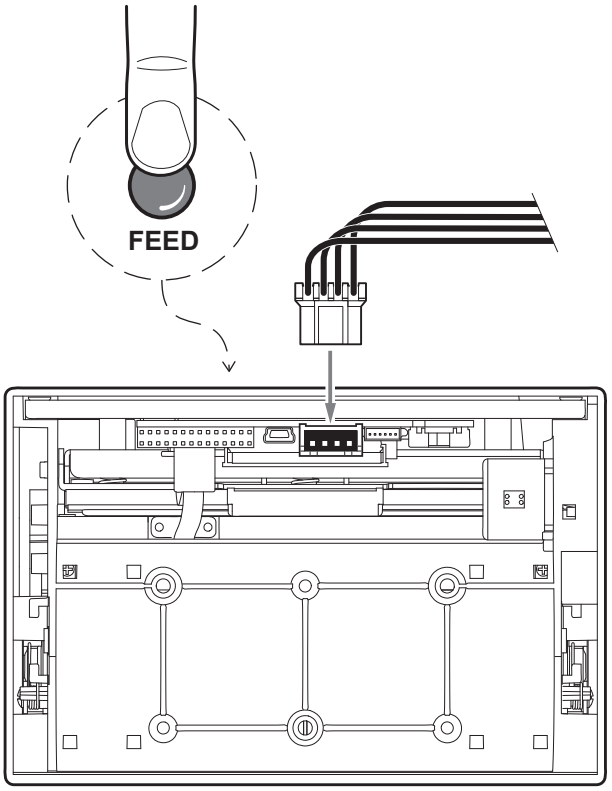
6 CONFIGURATION

6.1 Configuration by keys

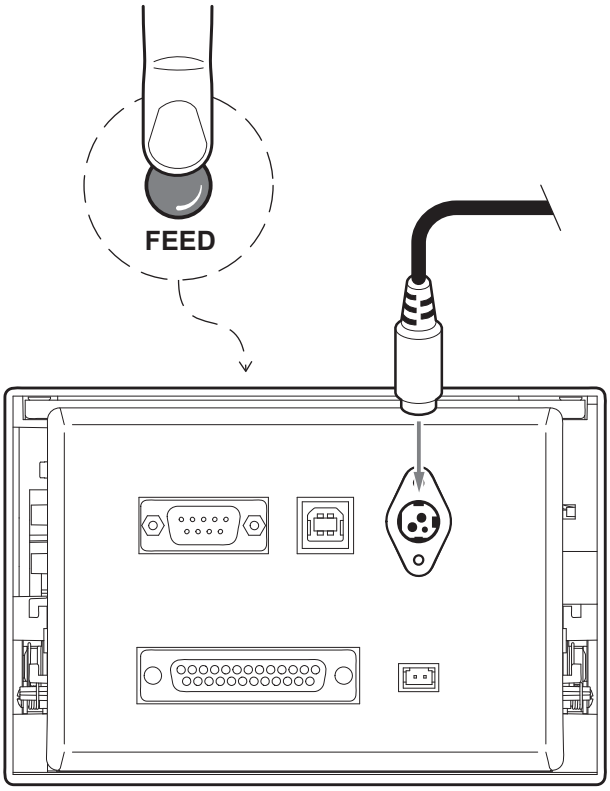
To enter the configuration mode and print a setup report with the operating parameters of the device, proceed as follows.

1

PLUS4 STD

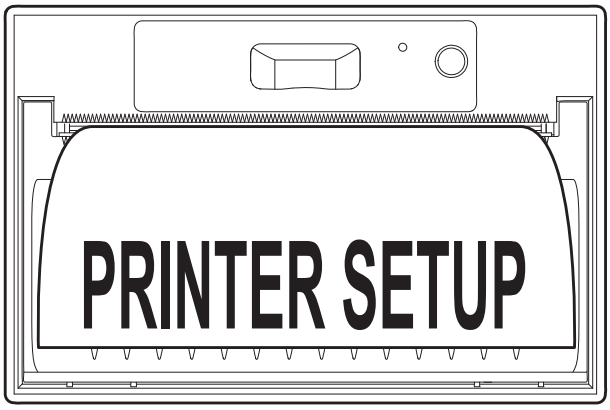


PLUS4 9-42 V



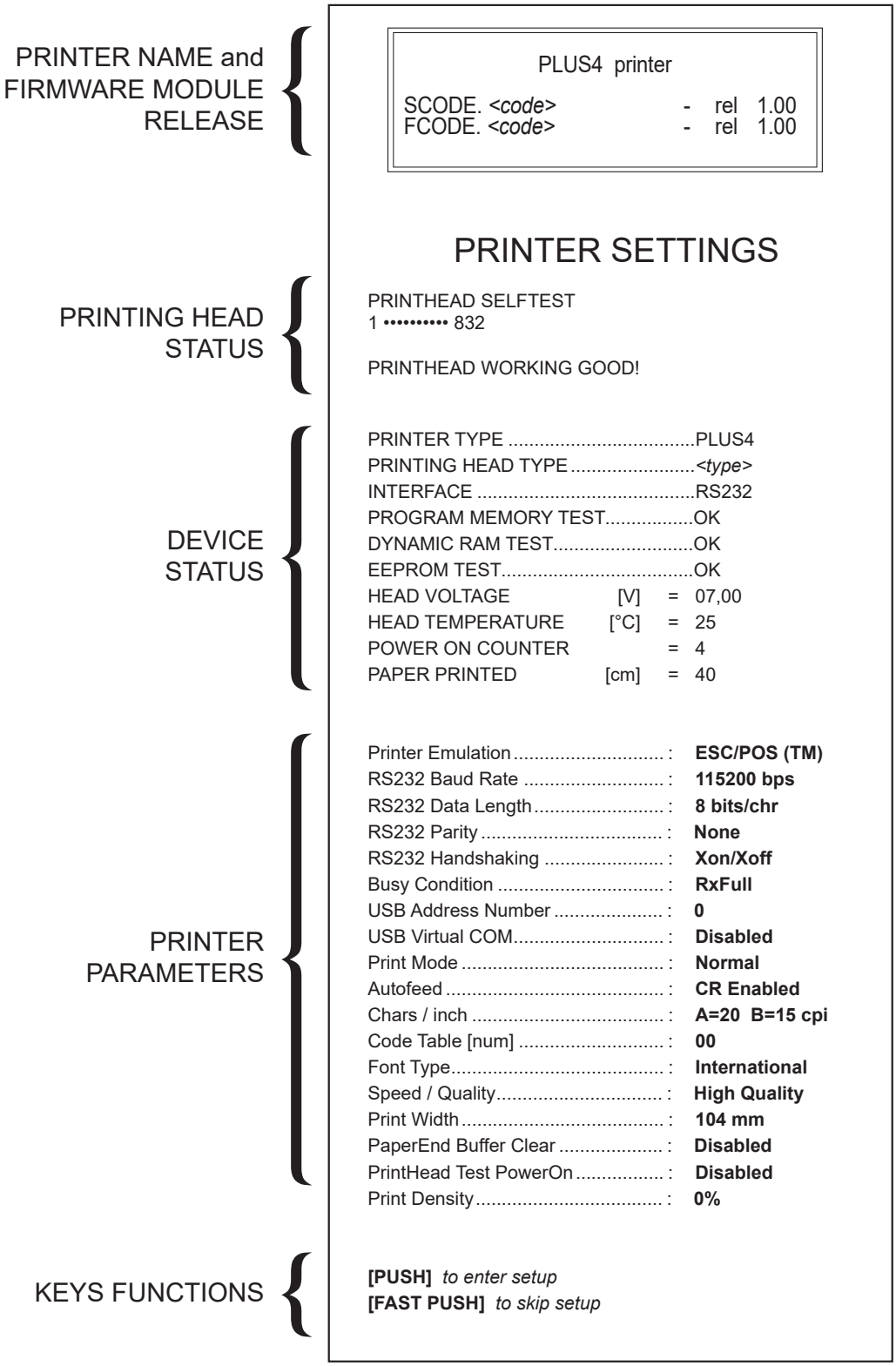
While pressing the FEED key,
switch on the device by inserting the power supply cable.

2



The device prints the report with the settings parameters.
Follow the instruction printed on the paper to proceed with configuration procedure.

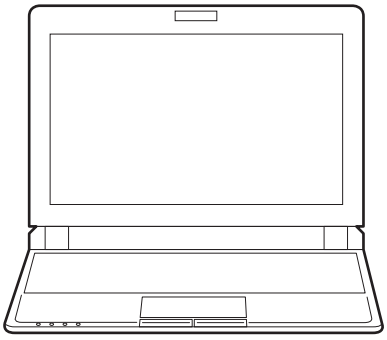
The following figure shows the setup report of the device. The shown values for parameters are sample values; for the list and the description of device parameters see the following paragraphs.



6.2 Configuration by software

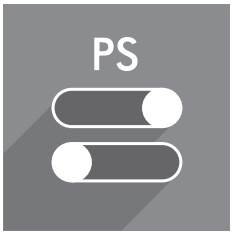
The setup parameters can be set by using the “PrinterSet” software tool available on www.custom4u.it.
For a detailed description of the device operating parameters see the following paragraphs.
To configure the device by software, proceed as follows.

1



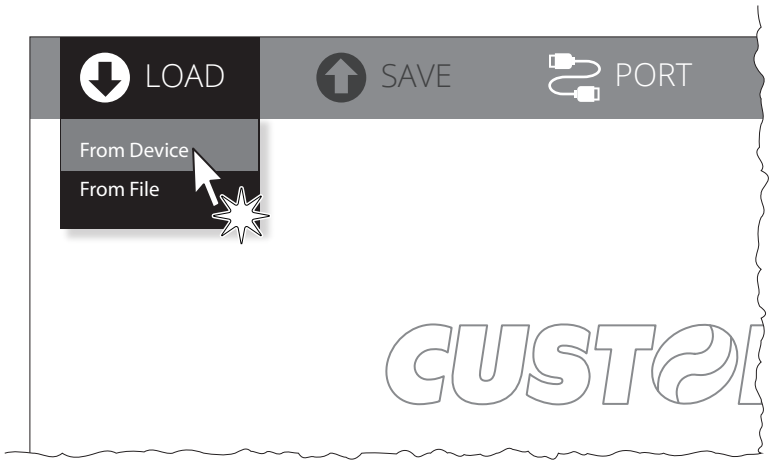
Collegare il dispositivo ad un PC in maniera diretta (vedere paragraph 4.2), senza l’utilizzo di dispositivi HUB.

2



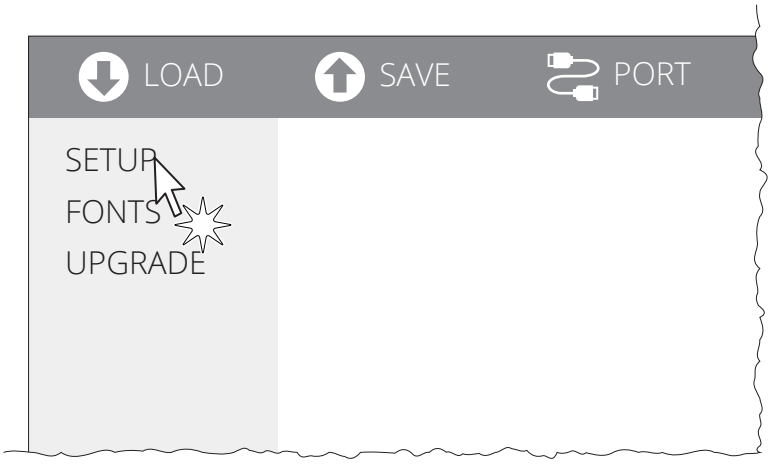
Start “PrinterSet” software tool.

3



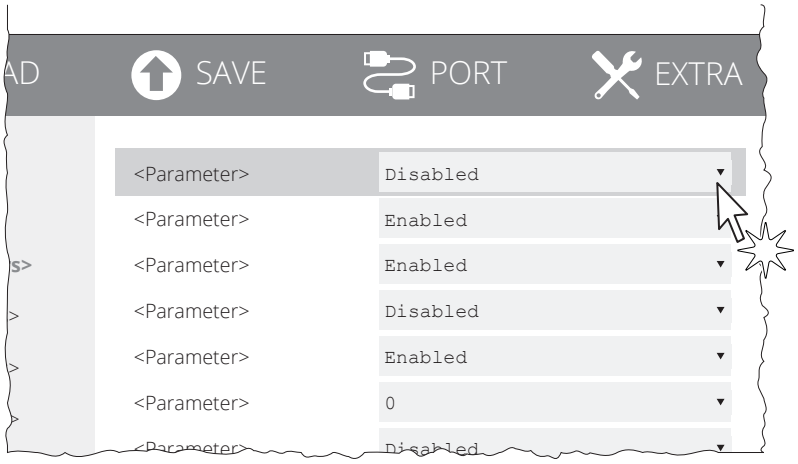
Click on LOAD > FROM DEVICE and select the device connected to the PC.

4



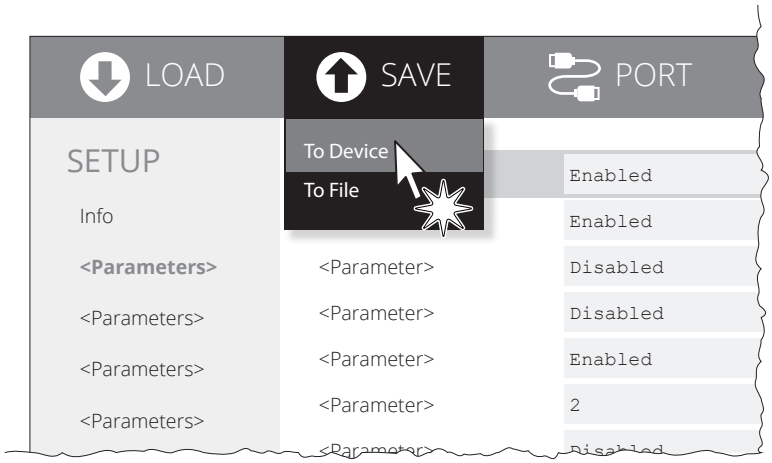
Click on SETUP to access the operating parameteres of the device to be configured.

5



Make the desired changes to the
device operating parameters.

6

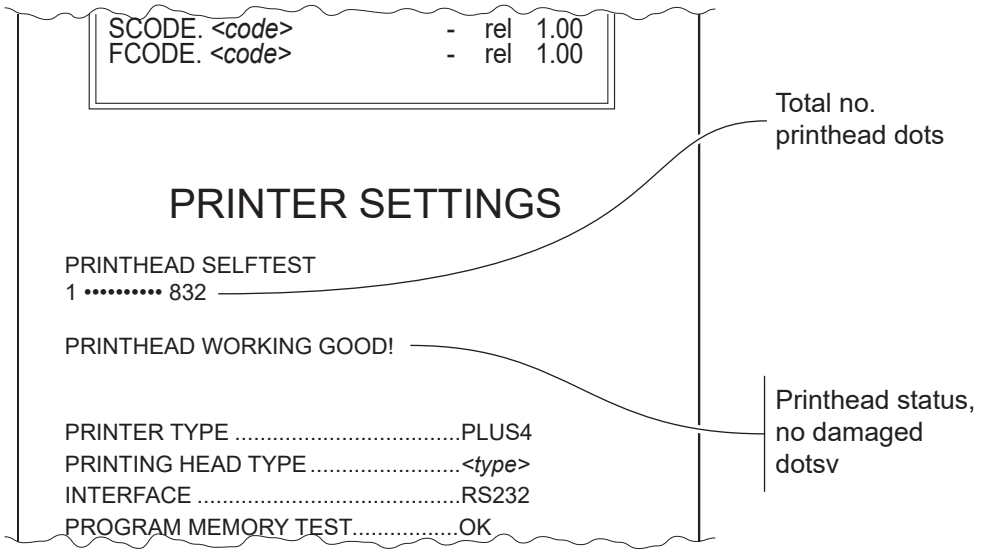


Click on SAVE > TO DEVICE
to make the changes made effective.

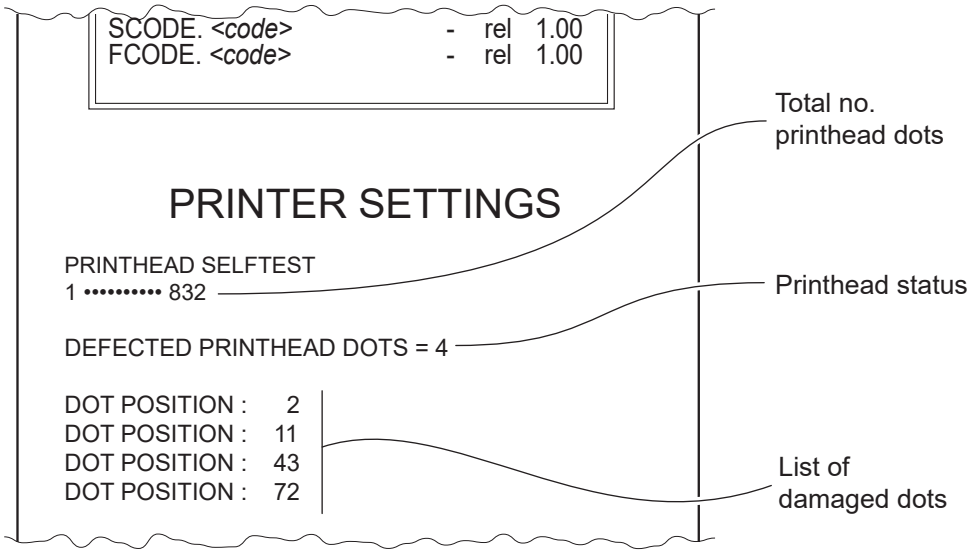
ATTENTION:
During saving, it is strongly discouraged to disconnect the communication cable or to remove the power supply of the PC or the device.

6.3 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).



6.4 Printer status

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

PRINTER TYPE	device model
PRINTING HEAD TYPE	print head model
INTERFACE	interface connected
PROGRAM MEMORY TEST	OK appears if functioning and NOT OK if faulty
DYNAMIC RAM TEST	OK appears if functioning and NOT OK if faulty
EEPROM TEST	OK appears if functioning and NOT OK if faulty
HEAD VOLTAGE	voltage of the head
HEAD TEMPERATURE	temperature of the head
POWER ON COUNTER	number of power-ups made
PAPER PRINTED	centimetres of paper printed

6.5 Communication parameters

This device allows the configuration of the parameters listed in the following table.
The parameters marked with the symbol [D] are the default values.
Settings remain active even after the device has been turned off.

RS232 BAUD RATE

Communication speed of the serial interface:

115200 [D]	9600
57600	4800
38400	2400
19200	1200

This parameter is valid only with serial interface.

RS232 DATA LENGTH

Number of bit used for characters encoding:

7 bits/car
8 bits/car [D]

This parameter is valid only with serial interface.

RS232 PARITY

Bit for the parity control of the serial interface:

None [D] = parity bit omitted
Even = even value for parity bit
Odd = odd value for parity bit

This parameter is valid only with serial interface.

RS232 HANDSHAKING

Handshaking:

XON/XOFF [D] = software handshaking
Hardware = 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.

BUSY CONDITION

Activation mode for Busy signal:

OffLine/ RXFull = Busy signal is activated when the printer is in OffLine status or when the buffer is full
RXFull [D] = Busy signal is activated when the buffer is full

This parameter is valid only with serial interface.

USB ADDRESS NUMBER

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

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

USB VIRTUAL COM	Setting the USB port as a virtual serial port: Disabled [D] = Virtual COM disabled Enabled = Virtual COM enabled To use this configuration, it is necessary to install an addictional driver (see paragraph 4.6).

6.6 Operation parameters

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

PRINTER EMULATION	Available emulations for the device: CUSTOM/POS [D] SEIKO CUSTOM TPT APS
PRINT MODE	Printing mode: Normal [D] = enables printing in normal writing way Reverse = enables printing rotated 180 degrees
AUTOFEED	Setting of the Carriage Return character: CR disabled = Carriage Return disabled CR enabled [D] = Carriage Return enabled
CHARS / INCH	Font selection: A = 11 cpi, B = 15 cpi A = 15 cpi, B = 20 cpi A = 20 cpi, B = 15 cpi [D] CPI = Characters Per Inch
CODE TABLE [num]	Identifier number of the character code table to use. See the paragraph 8.5 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). The numeric value of the identifier is made up with the following two parameters for the setting of two digits for the tens and the units:

CODE TABLE [num x 10]	Setting the digit for tens: 0 [D] 2 4 1 3 5
CODE TABLE [num x 1]	Setting the digit for units: 0 [D] 2 4 6 8 1 3 5 7 9

CHINESE FONT	Setting of the font: International[D] Chinese GB18030 Korean CP949

SPEED / QUALITY

Setting of printing speed and printing quality:

High Quality [D]
Normal

PRINT WIDTH

Width of printing area:

76 mm	82 mm	88 mm	94 mm	100 mm
78 mm	84 mm	90 mm	96 mm	102 mm
80 mm	86 mm	92 mm	98 mm	104 mm [D]

PAPEREND BUFFER CLEAR

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

Disabled [D] = The data remain in the receive buffer. When the paper runs out, the printer 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 [D] = the test is performed only during the printing of the setup report
Enabled = the test is performed at each power on

PRINT DENSITY

Adjusting the printing density:

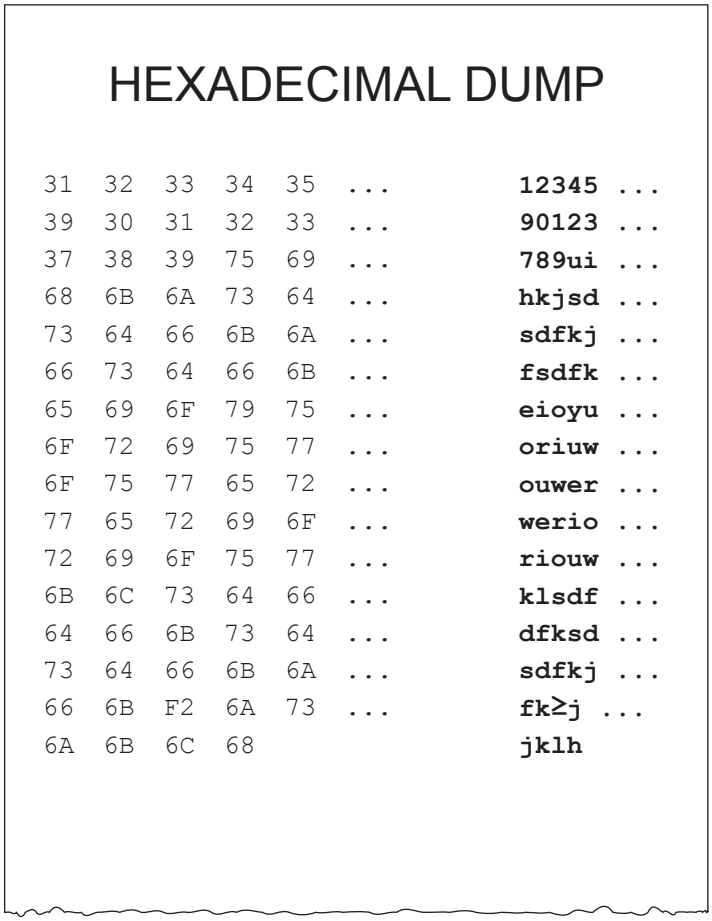
-50%	-12%	+25%
-37%	0 [D]	+37%
-25%	+12%	+50%

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.

6.7 Hexadecimal dump

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

During the startup, if you hold down the FEED key, the printer enters the self-test routine and print the setup report.
The printer 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.



7 MAINTENANCE

7.1 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 paragraph 7.2.

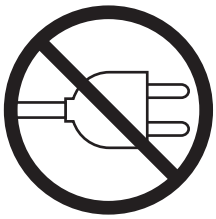
EVERY PAPER CHANGE	
Printhead	Use isopropyl alcohol
Rollers	Use isopropyl alcohol
EVERY 5 PAPER CHANGES	
Paper compartment	Use compressed air or tweezers
Sensors	Use compressed air
EVERY 6 MONTHS OR AS NEEDED	
Printer case	Use compressed air or a soft cloth

7.2 Cleaning

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

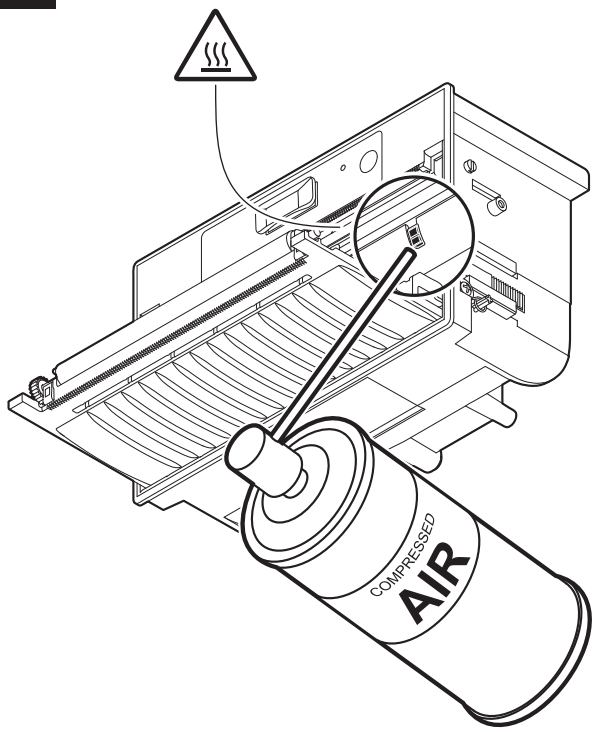
Sensors

1



Disconnect the power supply cable and open the front cover of the device (see paragraph 5.2).

2

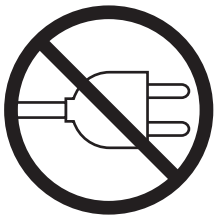


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the device.

Clean the device sensor by using compressed air.

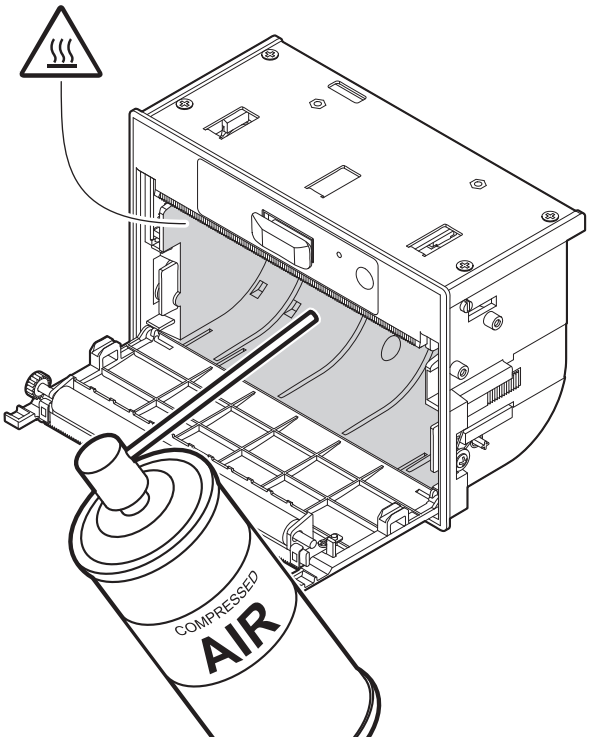
Paper compartment

1



Disconnect the power supply cable and open the front cover of the device (see paragraph 5.2).

2

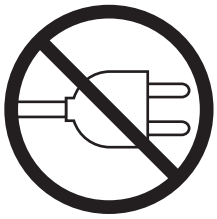


ATTENTION:
Do not use alcohol, solvents, or hard brushes.
Do not let water or other liquids get inside the device.

Remove any scraps of paper and the accumulated paper dust into the paper compartment by using compressed air.

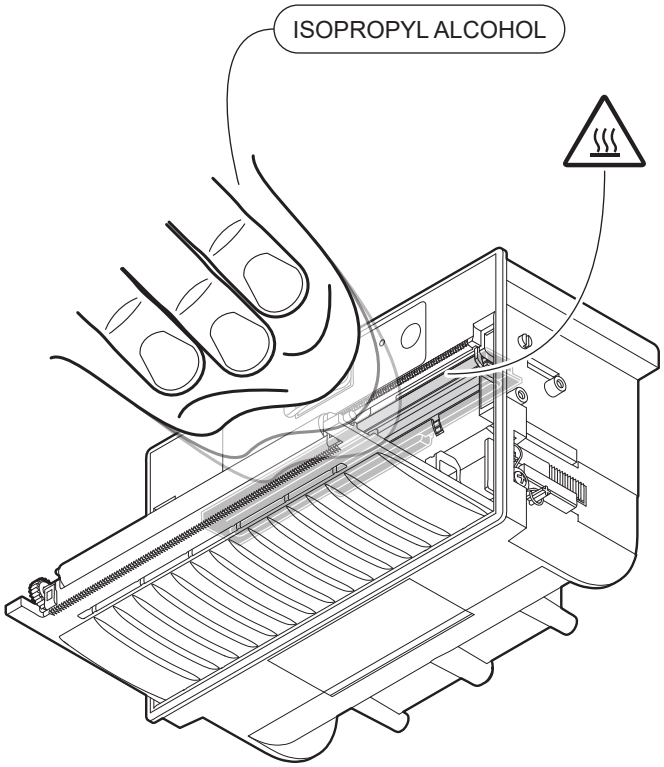
Printing head

1



Disconnect the power supply cable and open the front cover of the device (see paragraph 5.2).

2

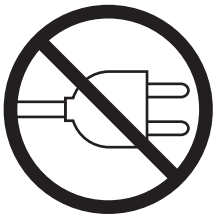


ATTENTION:
Do not use solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

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

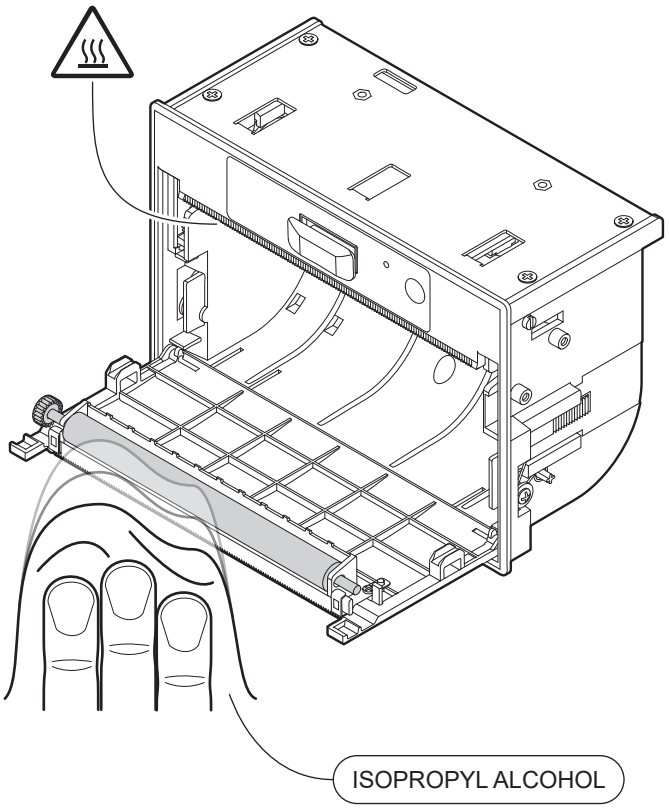
Printing roller

1



Disconnect the power supply cable and open the front cover of the device (see paragraph 5.2).

2

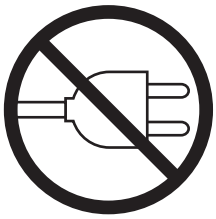


ATTENTION:
Do not use solvents, or hard brushes.
Do not let water or other liquids get inside the machine.

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

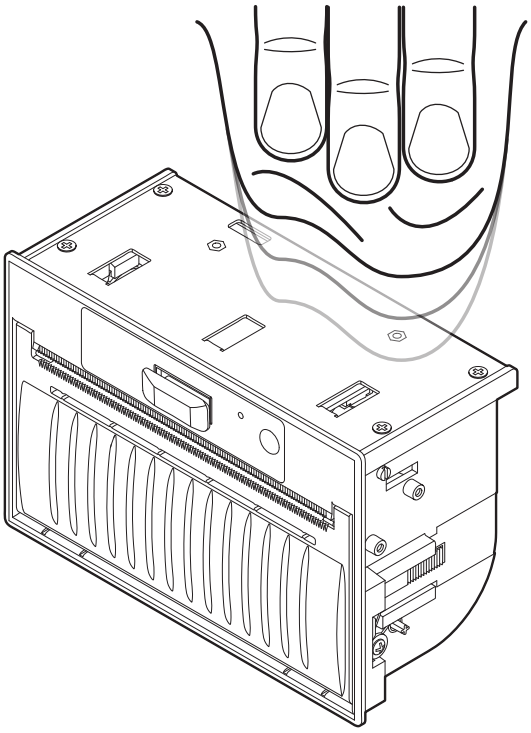
Case

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.

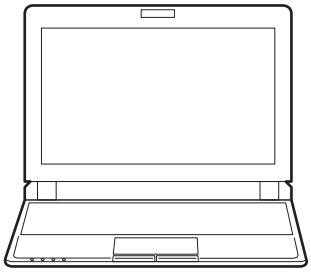
7.3 Firmware upgrade

Firmware upgrade can be performed by using the “PrinterSet” software tool available on www.custom4u.it.
To upgrade firmware, proceed as follows.

1

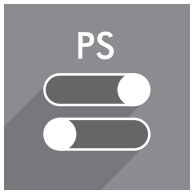
Login to the website www.custom4u.it, type in the product code of the device and download the latest firmware release available.

2



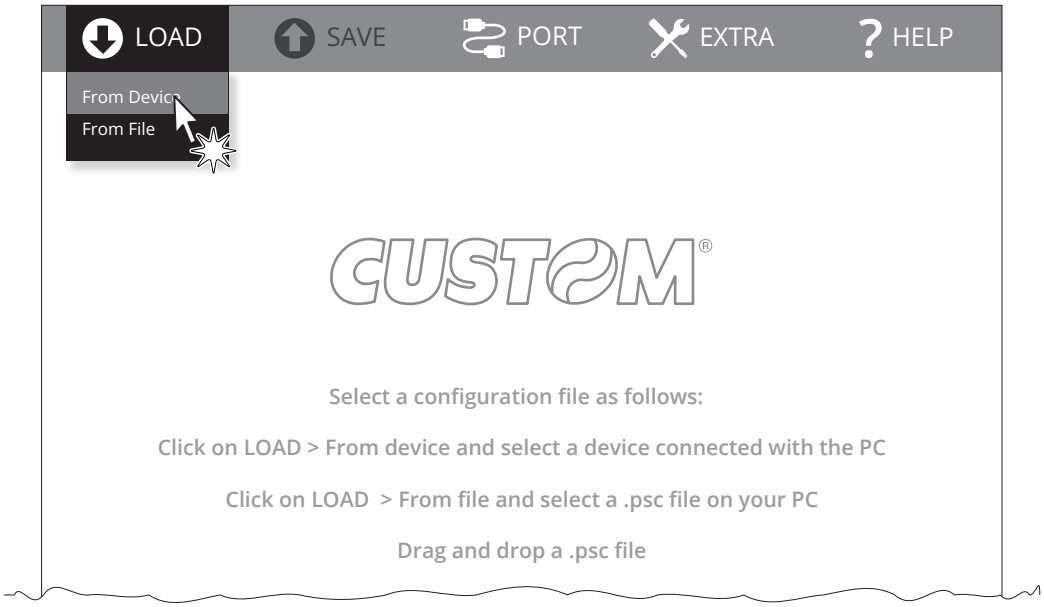
Connect the device to a PC directly (see paragraph 4.2), without using HUB devices.

3



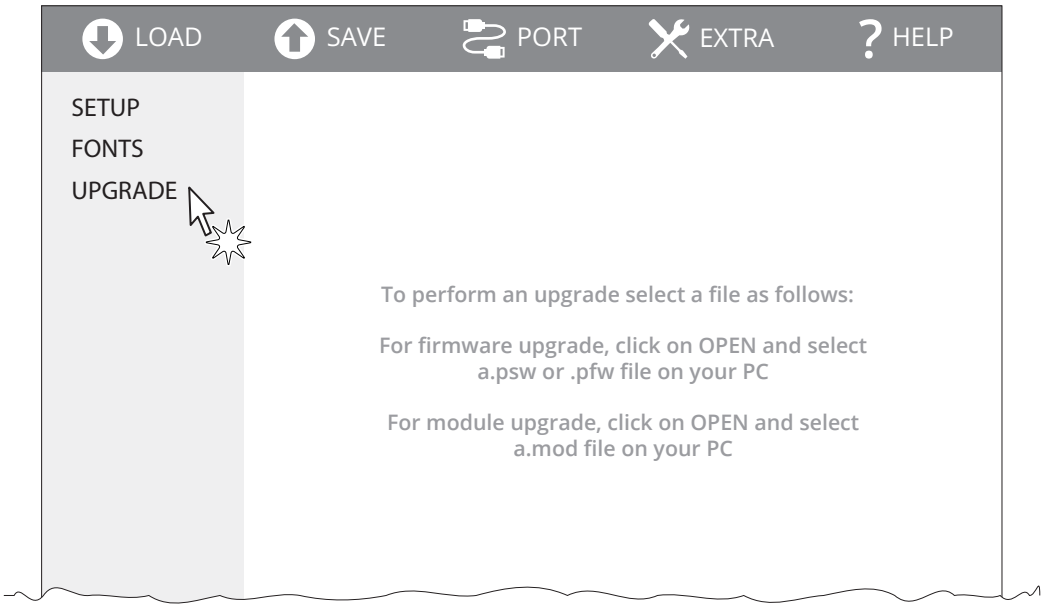
Start the “PrinterSet” software tool.

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.

8 SPECIFICATIONS

8.1 Hardware specifications

GENERAL	
Sensors	Paper presence, printing head temperature
Emulations	CUSTOM/POS
Printing driver	Windows 7 (32/64bit) Windows 8 (32/64bit) Self-installing driver for Virtual COM (32/64 bit) Driver CUPS Linux (32/64 bit) Android
INTERFACES	
PLUS4 STD	
USB connector	12 Mbit/s (USB 2.0 full speed)
Serial RS232/TTL connector	from 1200 bps to 115200 bps
PLUS4 9-42 V	
Seriale RS232 connector	from 1200 bps to 115200 bps
USB connector	12 Mbit/s (USB 2.0 full speed)
Centronics/TTL connector	up to 2 MB/s
MEMORIES	
Receive buffer	2 kB
Flash memory	1 MB internal + 4 MB external (of which 1 MB available)
RAM memory	128 kB internal + 8 MB external
PRINTER	
Resolution	203 dpi (8 dot/mm)
Printing method	Thermal, fixed head

Head life [1]	
Abrasion resistance [2]	50 km (with recommended paper, 12.5% duty cycle)
Pulse durability	100 M (referred to each dot)
Printing width	from 76 mm to 104 mm (2 mm step)
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 paragraph 8.5) Extended Chinese GB18030-2000
Printable barcode	UPCA, UPCE, EAN13, EAN8, CODE39, ITF CODABAR, CODE93, CODE128, CODE32 QRCode, PDF417
Printing speed [1] [4]	High Quality = 50 mm/s Normal = 70 mm/s
PAPER	
Tipe of paper	Thermal paper rolls, thermal side on outside of roll
Paper width	80 mm, 82.5 mm, 112 mm, 114 mm
Paper weight	from 50 g/m^2 to 60 g/m^2
Recommended types of paper	KANZAN KF50
Paper end	Not attached to roll core
External roll diameter	max. 50 mm
Internal roll core diameter	12 mm
Core type	Cardboard or plastic
DEVICE ELECTRICAL SPECIFICATIONS	
Power supply	
PLUS4 STD	from 5 Vdc to 8 Vdc (optional external power supply)
PLUS4 9-42 V	from 9 Vdc to 42 Vdc (optional external power supply)

Medium consumption (3)	max 2.7 A
Typical consumption (4)	
PLUS4 STD	from 1 A to 1.37 A
PLUS4 9-42 V	from 0.85 A to 0.20 A
Standby consumption	
PLUS4 STD	0.085 A
PLUS4 9-42 V	0.097 A
ELECTRICAL SPECIFICATIONS POWER SUPPLY cod.963GE020000071 (optional)	
Power supply voltage	from 90 Vac to 264 Vac
Frequency	from 47 Hz to 63 Hz
Output	24 V, 2.5 A
Power	60 W
ENVIRONMENTAL CONDITIONS	
Operating temperature	from 0°C to +60°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 90% (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 the UL measurements.
(4) : Referred to a standard CUSTOM receipt (L=10 cm, Density = 12,5% dots on).

8.2 Character specifications

Character set		3	
Character density	11 cpi	15 cpi	20 cpi
Number of columns	46	59	83
Chars / sec	402	516	726
Lines / sec	8.75	8.75	8.75
Characters (L x H mm)-Normal	2.25 x 3	1.75 x 3	1.25 x 3

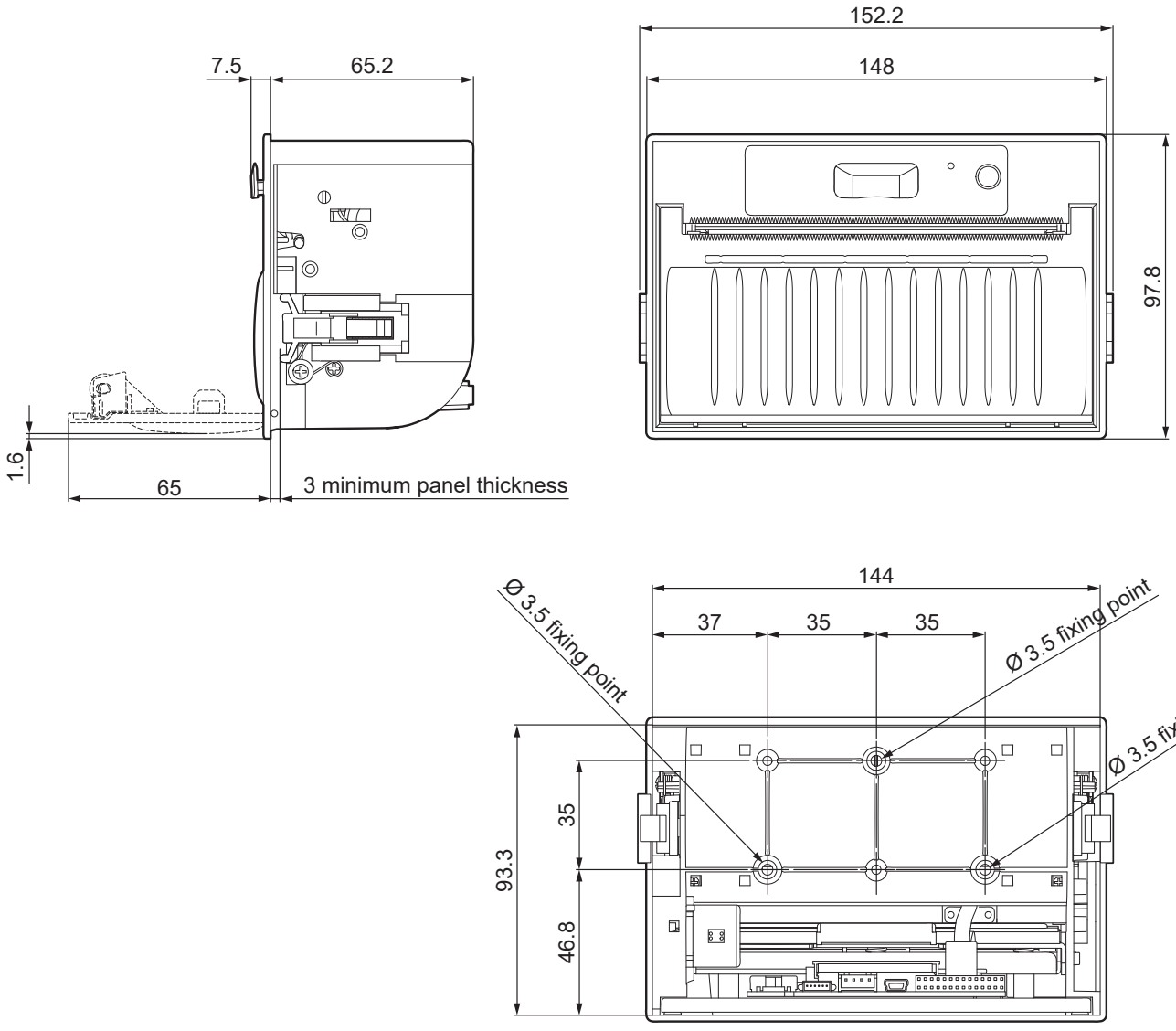
NOTE: Theoretical values.

8.3 Device dimensions

PLUS4 STD

Length	148 mm
Height	97.8 mm
Width	71.7 mm
Weight	390 g

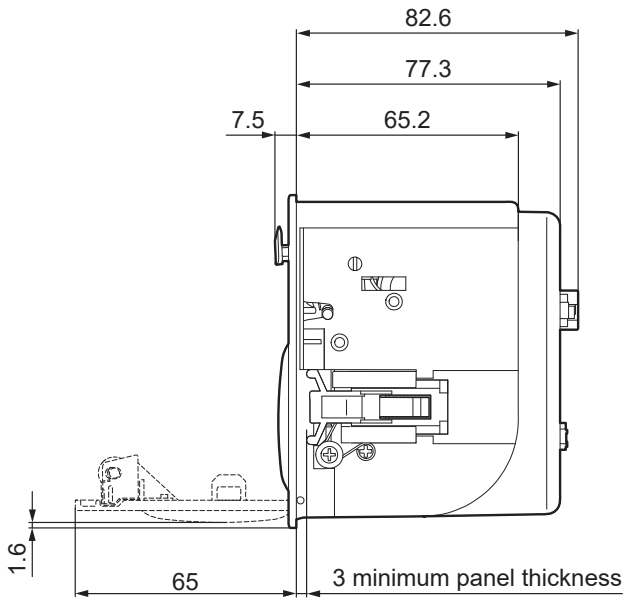
All the dimensions shown in following figures are in millimetres.

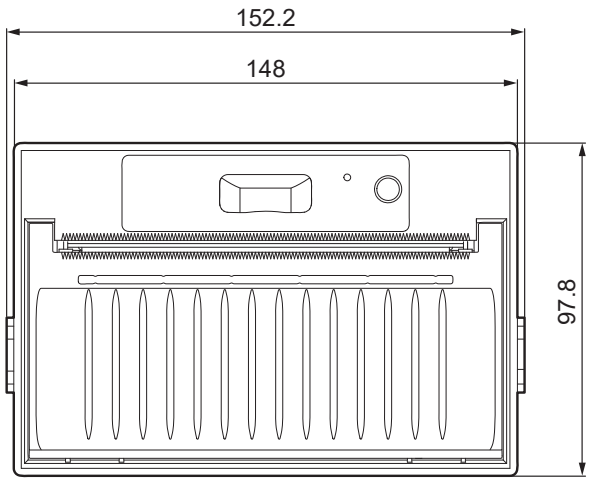


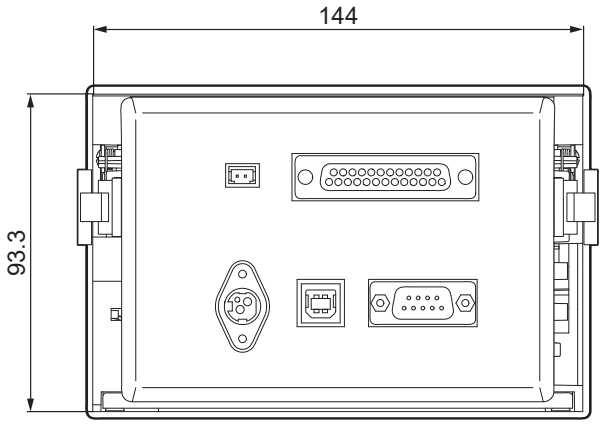
PLUS4 9-42 V

Length	148 mm
Height	97.8 mm
Width	89.1 mm
Weight	510 g

All the dimensions shown in following figures are in millimetres.







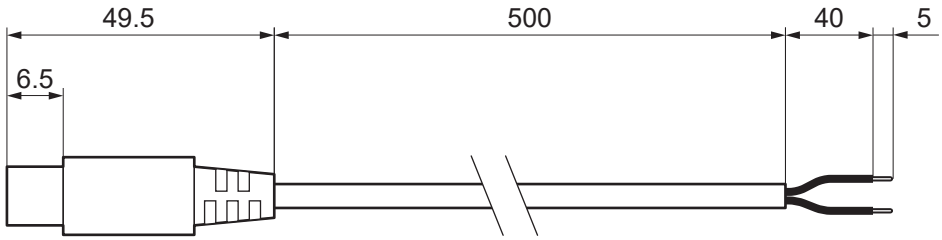
8.4 Dimensions of power supply and power supply cables (optional)

The following table shows the dimensions of the power supply and the power supply cables provided as optionals for the device.

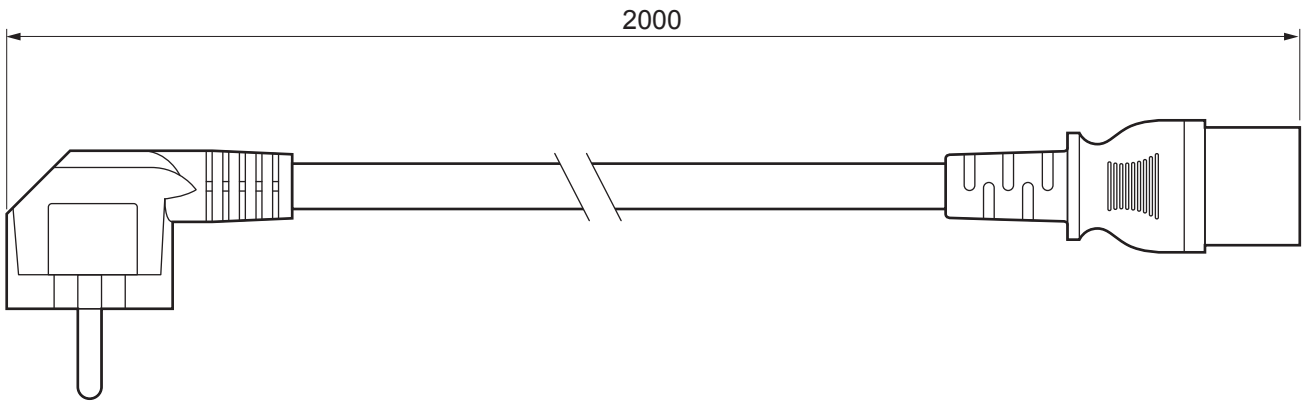
POWER SUPPLY CABLE code 26600000000012	
Length	200 mm
POWER SUPPLY CABLES code 26100000000311 and code 26100000000313	
Length	2000 mm
POWER SUPPLY code 963GE020000071	
Length	130 ± 1 mm
Height	36 ± 1 mm
Width	57 ± 1 mm

All the dimensions shown in following figures are in millimetres.

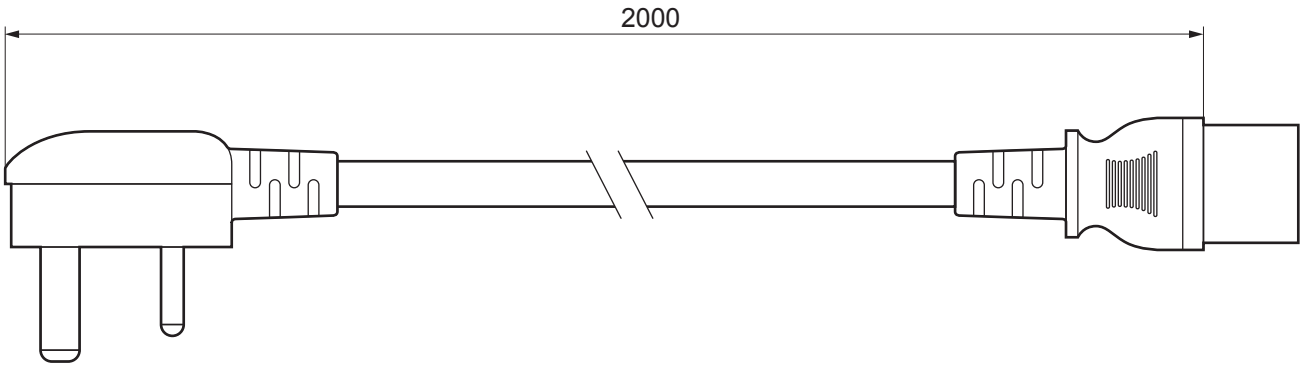
POWER SUPPLY CABLE code 26600000000012



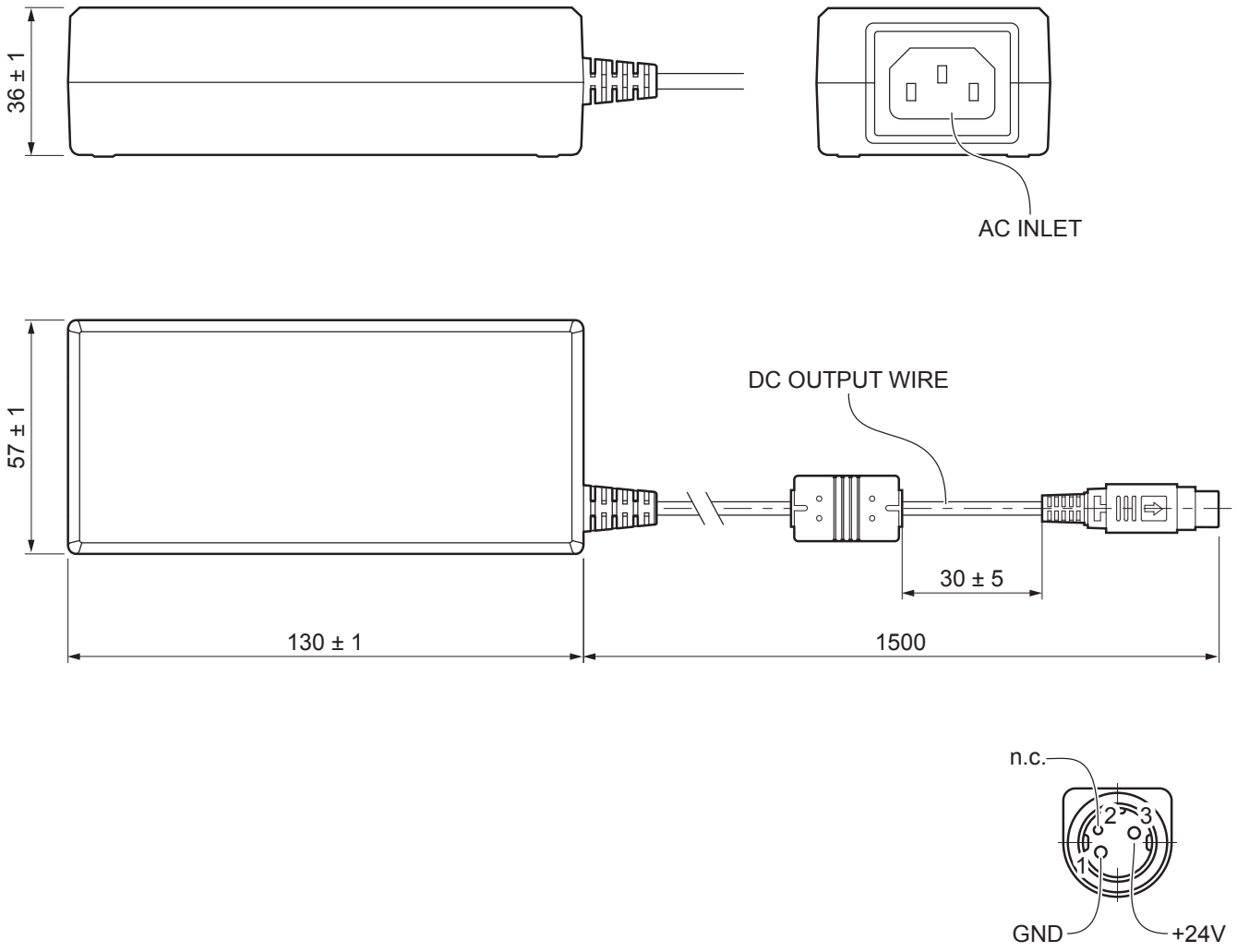
POWER SUPPLY CABLE code 26100000000311



POWER SUPPLY CABLE code 26100000000313



POWER SUPPLY code 963GE020000071



8.5 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 3.5).

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 6.6.

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	
17	PC866 - Cyrillic 2	
18	PC852 - Latin 2	
19	PC858 for Euro symbol in position 213	
20	KU42 - 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

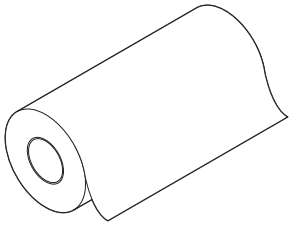
<CodeTable>	Coding table	
33	WPC775 - Baltic Rim	on request
34	PC855 - Cyrillic	
35	PC861 - Icelandic	on request
36	PC862 - Hebrew	
37	PC864 - Arabic	
38	PC869 - Greek	on request
39	ISO8859-2 - Latin 2	on request
40	ISO8859-15 - Latin 9	on request
41	PC1098 - Farsi	
42	PC1118 - Lithuanian	on request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

9 CONSUMABLES

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

67300000000310

THERMAL PAPER ROLL
wight = 54 g/m^2
width = 112 mm
Ø external = 48 mm
Ø core = 25 mm



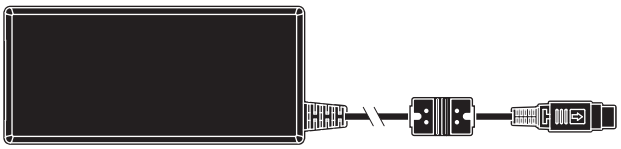
10 ACCESSORIES

The available accessories for the device are listed in the following table.

PLUS4 STD

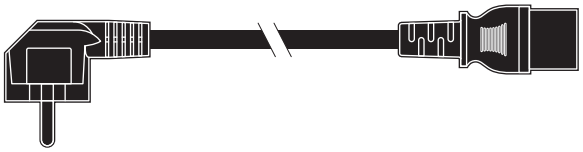
963GE020000071

POWER SUPPLY
(for technical specification, see paragraph 8.4)



26100000000311

POWER CORD SCHUKO PLUG
length = 2 m
(see paragraph 8.4)

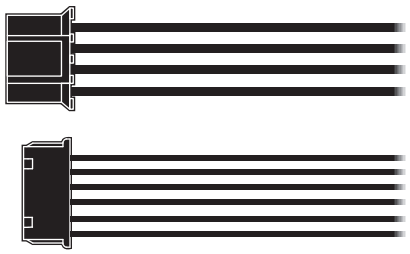


26100000000313

POWER CORD UK PLUG
length = 2 m
(see paragraph 8.4)

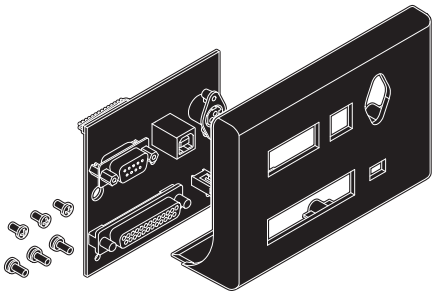
44000000002500

CABLES KIT POWER SUPPLY +
SERIAL/TTL INTERFACE 5-8 VOLT
length = 0.5 m



976GJ020000001

EXTENDED RANGE MODULE



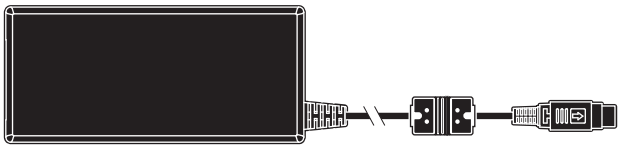
26500000000330

CABLE USB - MINI USB
length = 1 m

PLUS4 9-42 V

963GE020000071

POWER SUPPLY
(for technical specification, see paragraph 8.4)



26100000000311

POWER CORD SCHUKO PLUG
length = 2 m
(see paragraph 8.4)

26100000000313

POWER CORD UK PLUG
length = 2 m
(see paragraph 8.4)

26600000000012

POWER SUPPLY CABLE
length = 0.5 m
(see paragraph 8.4)

11 TECHNICAL SERVICE

In case of failure, contact the technical service accessing the website 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 3.4). 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).

Part Number : 76200000003800 Rev.1.10

CUSTOM S.p.A.
World Headquarters
Via Berettine, 2/B - 43010 Fontevivo, Parma ITALY
Tel. +39 0521 680111 - Fax +39 0521 610701
info@custom.biz - www.custom.biz

All rights reserved

www.custom.biz