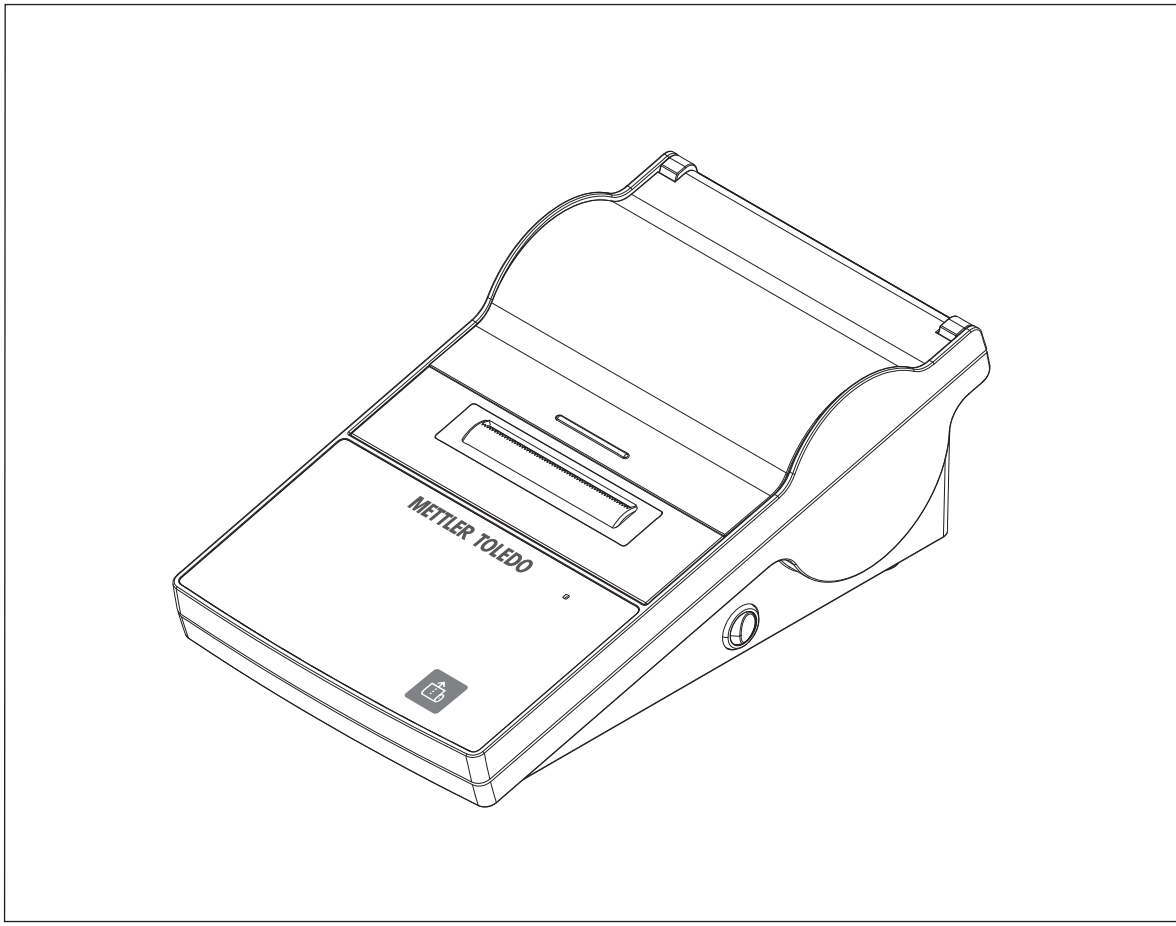
Reference Manual

Data Writer

P-52RUE



METTLER TOLEDO

Table of Contents

1 Introduction **3**
1.1 Further documents and information 3
1.2 Explanation of conventions and symbols used 3

2 Safety Information **4**
2.1 Definition of signal words and warning symbols 4
2.2 Product-specific safety information 4

3 Design and Function **5**
3.1 Overview 5
3.2 Interface Overview 6
3.2.1 RS232C Serial port 6
3.2.2 USB Device port 6
3.2.3 Ethernet 10/100base-TX RJ45 port 6
3.3 Paper feed button 7

4 Installation and Putting into Operation **8**
4.1 Selecting the location 8
4.2 Scope of delivery 8
4.3 Putting into operation 8
4.3.1 Connecting the data writer to the power supply 8
4.4 Inserting the paper roll 9
4.5 Installation 10
4.5.1 Connecting the data writer via the RS232 connection 10
4.5.2 Connecting the data writer via the USB connection 10
4.5.3 Connecting the data writer via the Ethernet connection 10
4.6 Transporting the accessory 11

5 Operation **12**
5.1 Operation via the main instrument 12
5.2 Opening the menu mode 12
5.3 Defining the menu settings 12

6 Maintenance **14**
6.1 Maintenance tasks 14
6.2 Replacing the ribbon cartridge 14
6.3 Cleaning the housing 15

7 Troubleshooting **16**

8 Technical Data **17**
8.1 General technical data 17
8.2 Dimensions 18

9 Disposal **19**

10 Accessories and Spare Parts **20**
10.1 Accessories 20
10.2 Spare parts 20
10.3 Consumables 21

Index **23**

1 Introduction

The P-52RUE is an easy-to-handle dot matrix data writer for METTLER TOLEDO instruments. This high-value data writer guarantees long-term traceability.

The P-52RUE data writer can only be used with supported METTLER TOLEDO instruments. It is not working with other equipment (e.g. laptops) as no printer protocol is supported.

Features

- Robust, high-value design
- Easy-to-use and fully compliant
- Long-term traceability due to dot matrix technology
- Versatile connectivity with USB, RS232 and Ethernet interface

Software version

These instructions are based on the initial firmware (software) version 1.00.

1.1 Further documents and information

www.mt.com/lab-printers

This document is available in other languages online.

www.mt.com/P-52RUE-RM

Search for documents www.mt.com/library

For further questions, please contact your authorized METTLER TOLEDO dealer or service representative.

www.mt.com/contact

1.2 Explanation of conventions and symbols used

Conventions and symbols

Note For useful information about the product.

Elements of instructions

In this manual, step-by-step instructions are presented as follows. The action steps are numbered and can contain prerequisites, intermediate results and results, as shown in the example. Sequences with less than two steps are not numbered.

- Prerequisites that must be fulfilled before the individual steps can be executed.

1 Step 1

   ➡ Intermediate result

2 Step 2

➡ Result

2 Safety Information

- This Reference Manual contains a full description of the accessory and its use.
- Keep the Reference Manual for future reference.
- Include the Reference Manual if you transfer the accessory to other parties.

Only use the accessory according to the Reference Manual. If you do not use the accessory according to the Reference Manual or if it is modified, the safety of the accessory may be impaired and Mettler-Toledo GmbH assumes no liability.

2.1 Definition of signal words and warning symbols

Safety notes contain important information on safety issues. Ignoring the safety notes may lead to personal injury, damage to the instrument, malfunctions and false results. Safety notes are marked with the following signal words and warning symbols:

Signal words

DANGER	A hazardous situation with high risk, resulting in death or severe injury if not avoided.
WARNING	A hazardous situation with medium risk, possibly resulting in death or severe injury if not avoided.
CAUTION	A hazardous situation with low risk, resulting in minor or moderate injury if not avoided.
NOTICE	A hazardous situation with low risk, resulting in damage to the instrument, other material damage, malfunctions and erroneous results, or loss of data.

General hazard

Notice

2.2 Product-specific safety information

Intended use

This accessory is intended to be used by trained staff. The P-52RUE data writer is intended to be used only with METTLER TOLEDO instruments.

Any other type of use and operation beyond the limits of use stated by Mettler-Toledo GmbH without consent from Mettler-Toledo GmbH is considered as not intended.

Responsibilities of the instrument owner

The instrument owner is the person holding the legal title to the accessory and who uses the accessory and the main instrument or authorizes any person to use them, or the person who is deemed by law to be the operator of the accessory and the main instrument. The instrument owner is responsible for the safety of all users of the accessory and third parties.

Mettler-Toledo GmbH assumes that the instrument owner trains users to safely use the accessory and the main instrument in their workplace and deal with potential hazards. Mettler-Toledo GmbH assumes that the instrument owner provides the necessary protective gear.

NOTICE

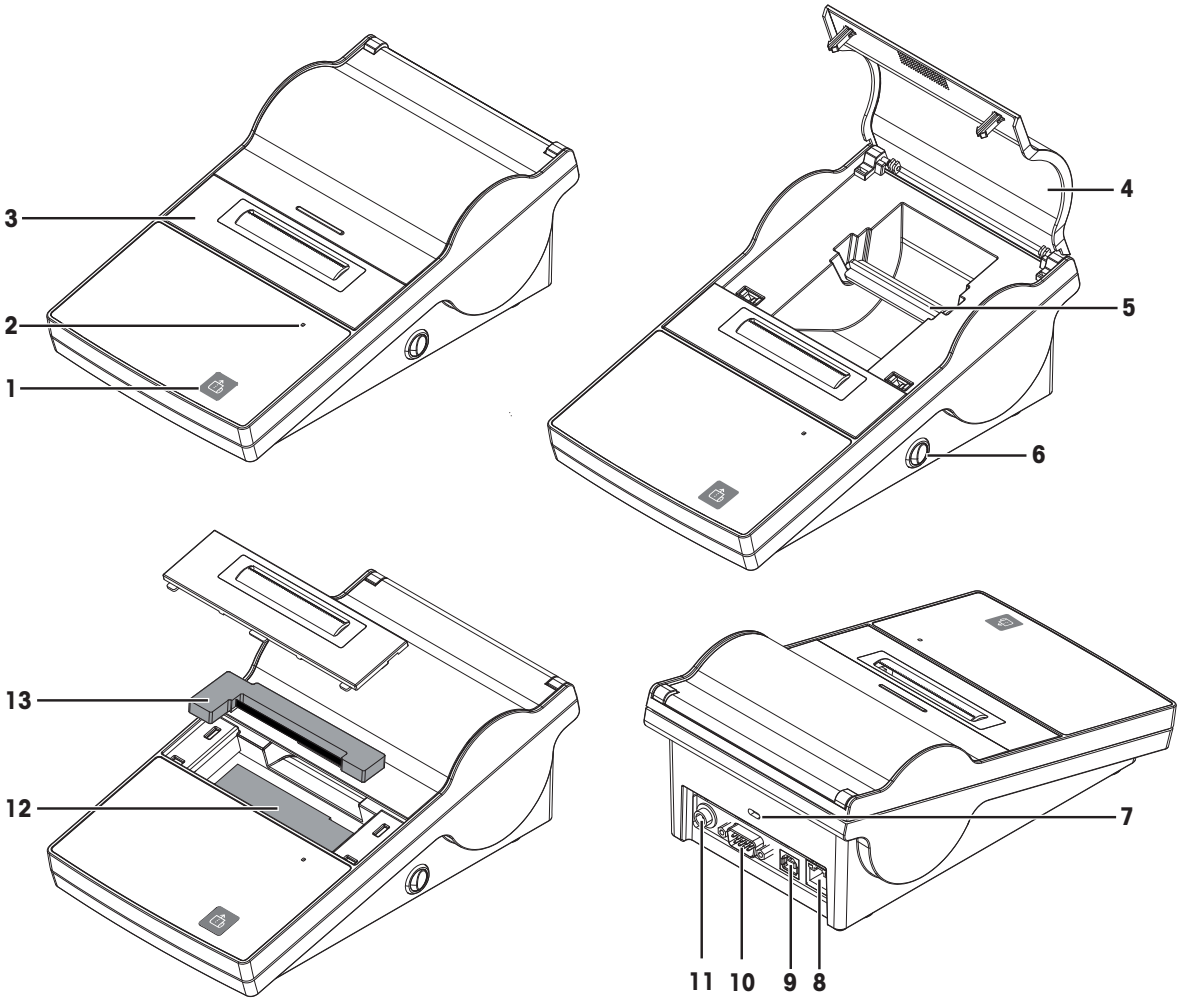
Damage to the accessory or the main instrument due to the use of unsuitable parts

Using unsuitable parts with the accessory can damage the accessory or the main instrument or cause them to malfunction.

– Only use parts from METTLER TOLEDO that are intended to be used with your accessory.

3 Design and Function

3.1 Overview

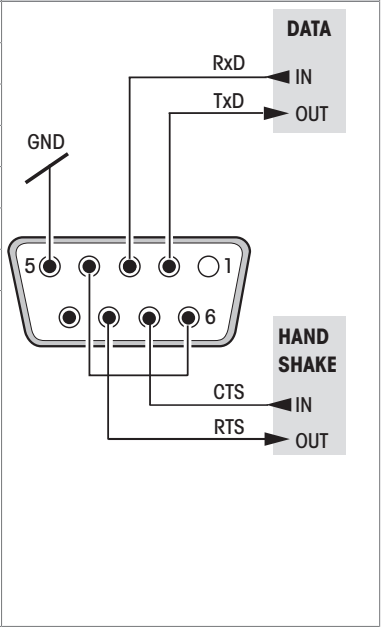


1	Paper feed button	**8**	Ethernet RJ45 connection
2	Status indicator	**9**	USB device connection
3	Paper cutter	**10**	RS232 connection
4	Paper cover	**11**	Socket for AC adapter
5	Paper rotary axis	**12**	Print head
6	Power switch	**13**	Ribbon cartridge
7	Anti-theft slot		

3.2 Interface Overview

3.2.1 RS232C Serial port

Pin No.	Function
1	+12V output control
2	RxD
3	TxD
4	Connect to Pin 6
5	GND
6	Connect to Pin 4
7	RTS
8	CTS



Note
The total current to the serial port may not exceed 250 mA.

3.2.2 USB Device port

USB connector type B

Pin No.	Function
1	VBUS
2	D-
3	D+
4	GND

3.2.3 Ethernet 10/100base-TX RJ45 port

RJ45 connector

Pin No.	Signal
1	TX+
2	TX-
3	RX+
4	
5	
6	RX-
7	
8	

3.3 Paper feed button

The paper feed button [⏏] is the only control button of the P-52RUE data writer. The data writer has two modes: Operation mode and Menu mode. The button can have different functions depending on the chosen mode.

Operation mode

The operation mode is the standard mode. It is always activated, except when the Menu mode is activated.

- Press briefly on [⏏]: one line feed
- Hold [⏏]: continuous feed

Menu mode

The menu mode must be activated specifically, see section [Opening the menu mode ▸ Page 12].

- Press briefly on [⏏]: go to the next menu item
- Hold [⏏]: Store a menu item as default setting

Note

The printing process can be paused/continued by pressing [⏏].

4 Installation and Putting into Operation

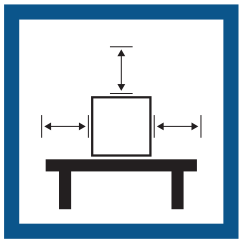
4.1 Selecting the location

Optimal location ensures accurate and reliable operation of the accessory.

Requirements of the location

Place indoors on stable table

Ensure sufficient spacing



Avoid direct sunlight

Avoid temperature fluctuations

Sufficient distance: > 15 cm all around the accessory.

Take into account the environmental conditions. See "Technical Data".

Note

Do not place the accessory on the same working surface with instruments that are sensitive to vibrations.

4.2 Scope of delivery

The following accessories are part of the equipment:

- P-52RUE dot matrix data writer
- Paper rotary axis (already installed)
- 1 ribbon cartridge (already installed)
- 2 rolls of paper
- Universal AC adapter
- Country-specific power cable
- USB cable
- RS232 cable
- User Manual
- Declaration of conformity

Check the package, the packaging elements and the delivered components for damages. If any components are damaged, please contact your METTLER TOLEDO service representative.

4.3 Putting into operation

4.3.1 Connecting the data writer to the power supply

⚠ WARNING

Death or serious injury due to electric shock

Contact with parts that carry a live current can lead to death or injury.

1 Only use the METTLER TOLEDO power cable and AC/DC adapter designed for your instrument.

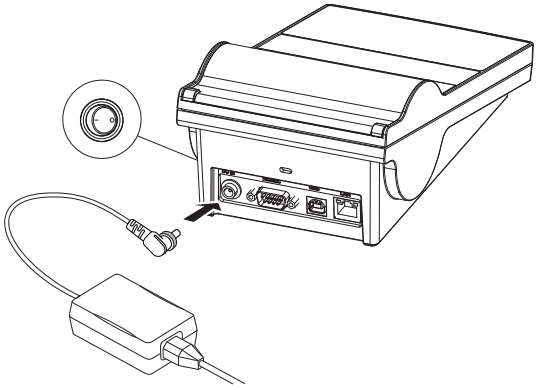
2 Connect the power cable to a grounded power outlet.

3 Keep all electrical cables and connections away from liquids and moisture.

4 Check the cables and the power plug for damage and replace them if damaged.

- The data writer must be switched off.

1 Connect the AC adapter to the connection socket on the back of the data writer.
2 Lock the connector with the screw nut.
3 Connect the 3-pin grounded power cable to the socket for the AC adapter.
4 Connect the power cable to the mains.



i Note

The power plug must be accessible at all times.

4.4 Inserting the paper roll

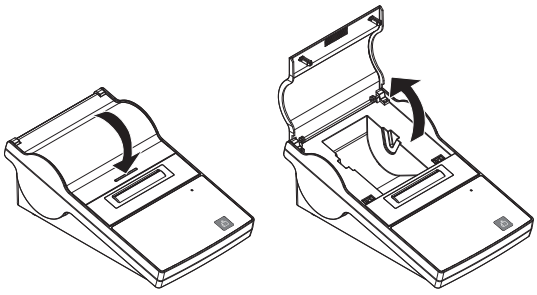
i Note

METTLER TOLEDO recommends to use only specified paper from METTLER TOLEDO (see at section [Accessories and Spare Parts ▸ Page 20]).

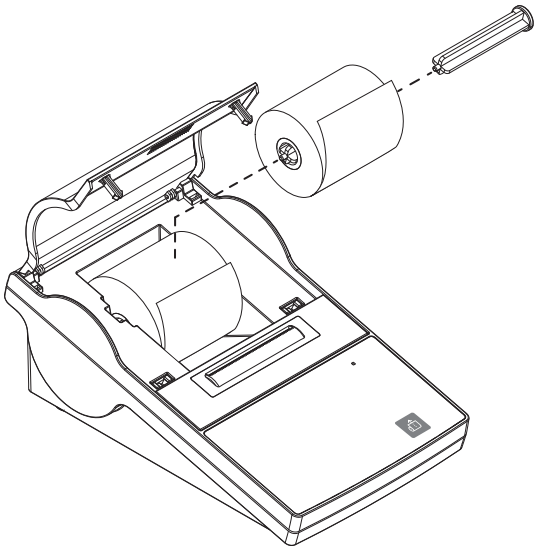
i Note

The data writer has a push-to-open mechanism to open the paper cover. The paper cover must be pushed down in the middle at the mark.

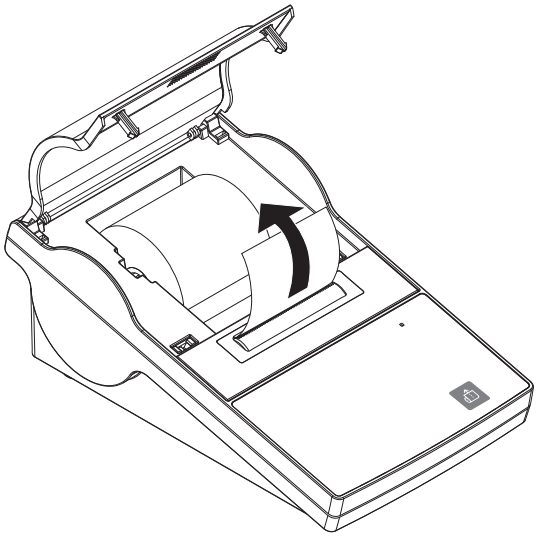
1 Switch on the data writer.
2 Push down the paper cover.
3 Open the paper cover.
4 Remove the paper cutter.



5 Remove the paper rotary axis from the data writer frame.
6 Insert the rotary axis into the paper roll.
i Note
The paper roll must unroll in the correct direction (see picture).
7 Place the paper roll into the data writer frame.
8 Unroll the paper and stick the paper end into the 5 mm slot between the print head and the metal plate.



9 Press [⏏].
➡ The print head pulls the paper in.
10 Press and hold [⏏] until some paper has been fed.
11 Close the paper cover.



4.5 Installation

NOTICE

METTLER TOLEDO recommends connecting the data writer to only one instrument at a time. If several instruments are connected to the data writer at the same time METTLER TOLEDO cannot assume the correct functionality of the data writer.

4.5.1 Connecting the data writer via the RS232 connection

1 Connect the data writer to the power supply.
2 Use the RS232 cable to connect the data writer to the METTLER TOLEDO instrument.
Note
The RS232 connection settings of the data writer and of the instrument must be identical.
3 Switch on the data writer.

Note
The function **Auto connection** is switched off by default. It can be switched on if the data writer is connected with the RS232 connection and if the connection settings (**Baudrate**, **Bits / Parity**, **Handshake**) of the data writer differ from the settings of the balance. For more information about activating the function **Auto connection see** RS232.

System default settings

Baudrate:	**9600**	**Stop bits:**	**1 Bit**
Bits / Parity:	**8 / None**	**Handshake:**	**XOn/XOff**
Auto Baudrate	**Off**	**Char Set**	**UTF-8**

4.5.2 Connecting the data writer via the USB connection

Use the USB connection cable to connect the data writer to an instrument.

Note
The P-52RUE data writer will be automatically recognized by most of the instruments. Consult the Reference Manual of the main instrument for detailed instructions on how to connect the data writer to the main instrument.

4.5.3 Connecting the data writer via the Ethernet connection

Consult the Reference Manual of the main instrument for detailed instructions on how to connect the data writer to the main instrument.

4.6 Transporting the accessory

NOTICE

Risk of property damage due to improper transport

In the event of improper transport, the accessory may fall. This can cause major property damage.

1 Only transport the accessory when it is disconnected from the power supply.
2 If you would like to transport or ship your accessory over long distances, use the complete original packaging.
3 Always transport packages upright.
4 Always handle with care.

Remove the power cable and any interface cable from the accessory. Refer to the notes in section [Selecting the location ▸ Page 8] regarding the choice of an optimal location.

5 Operation

5.1 Operation via the main instrument

For more information on how to operate the data writer via the main instrument, consult the Reference Manual (RM) of the main instrument.

5.2 Opening the menu mode

- The data writer is switched off.

1 Press and hold ⏏.

Note

⏏ must be hold down during the whole process.

2 Switch the data writer on.

3 Hold ⏏ until the status indicator flashes and the data writer starts printing.

4 Release ⏏.

➡ The data writer is in menu mode and the menu settings can be defined.

Note

If ⏏ is not pressed for 45 seconds, the data writer automatically goes back to operation mode.

5.3 Defining the menu settings

When the menu mode is activated (how to activate the menu mode see at section [Opening the menu mode ▸ Page 12]), the settings can be defined. By pressing briefly on ⏏ the data writer goes step-wise through the parameters and their values. To define a value as default, wait until the value is printed and hold ⏏ to confirm it as default value.

The following settings can be defined

Parameter	Description	Values
Settings	The settings can be reset to the default values.	Reset
Auto Baudrate	Activates/deactivates the function **Auto baudrate detection**.	On I Off*
Char Set	To chose the character set.	UTF-8* I IBM/DOS I IBM/DOS Cyrillic I IBM/DOS Japanese I ANSI/WIN Latin 1 I ANSI/WIN Cyrillic I ANSI/WIN Japanese

* System default settings

Note

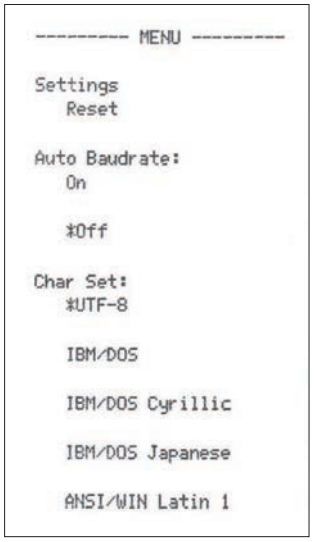
The default value for **Char Set** is **UTF-8**. If the connected device is not using **UTF-8**, it must be changed in the data writer settings.

Setting a default value

The value **UTF-8** is defined as default value (marked with the symbol ✱). This example shows how a default value can be changed/set. In this example, the default value **UTF-8** is changed to **ANSI/WIN Latin 1**.

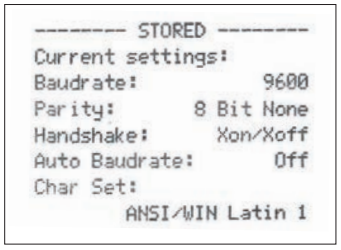
- The data writer is set to menu mode.

1. Use ⇧ to scroll through menu until the value **ANSI/WIN Latin 1** is printed.
2. Press and hold ⇧ until the data writer prints a confirmation of the current settings.
   - ➡ The value for **Char Set** is now **ANSI/WIN Latin 1**.



Note

After the stored settings have been printed, the data writer returns automatically into operation mode.



6 Maintenance

⚠ WARNING

Death or serious injury due to electric shock

Contact with parts carrying a live current can lead to injury and death.

1 Disconnect the data writer from the power supply prior to cleaning and maintenance.

2 Prevent liquid from entering the data writer or AC/DC adapter.

NOTICE

Risk of property damage due to opening the housing

Opening the housing of the data writer or the AC adapter can cause major property damage.

– Do not open the housing of the data writer or the AC adapter. They contain no components which can be cleaned, repaired or replaced by the user.

6.1 Maintenance tasks

Maintenance action	Recommended interval	Remarks
Replacing the ribbon cartridge	• When the printings start to fade	see [Replacing the ribbon cartridge ▸ Page 14]
Cleaning	• Depending on the degree of pollution	see [Cleaning the housing ▸ Page 15]

6.2 Replacing the ribbon cartridge

Note

The ribbon cartridge must be changed when the printings start to fade.

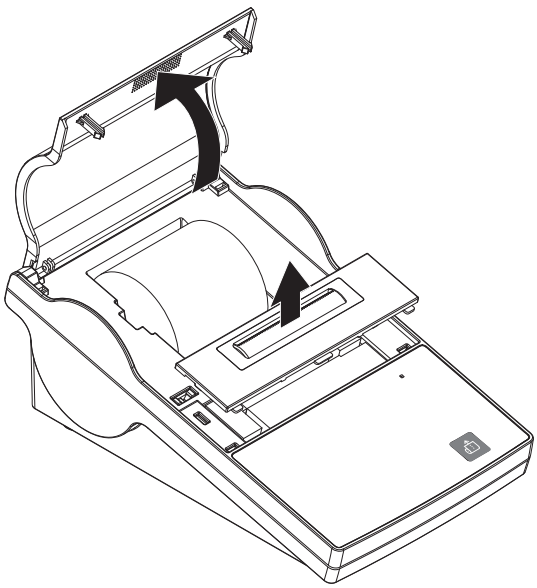
Note

The ribbon cartridge can dry out when the data writer is not being used for some time. Ribbon cartridges that have been dried out cannot be used anymore and must be replaced.

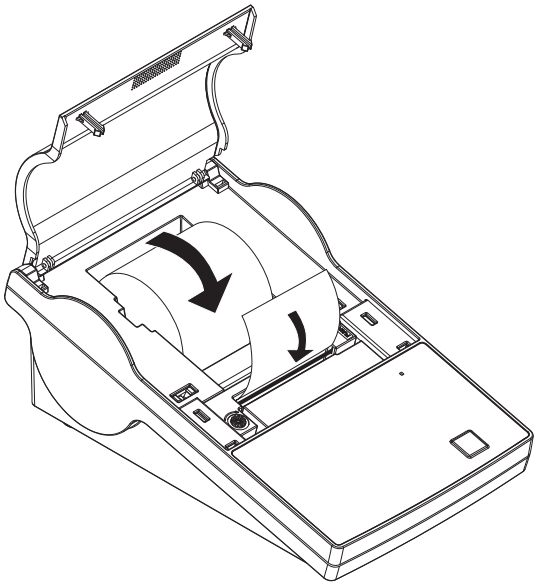
■ The data writer is switched off.

1 Open the paper cover.

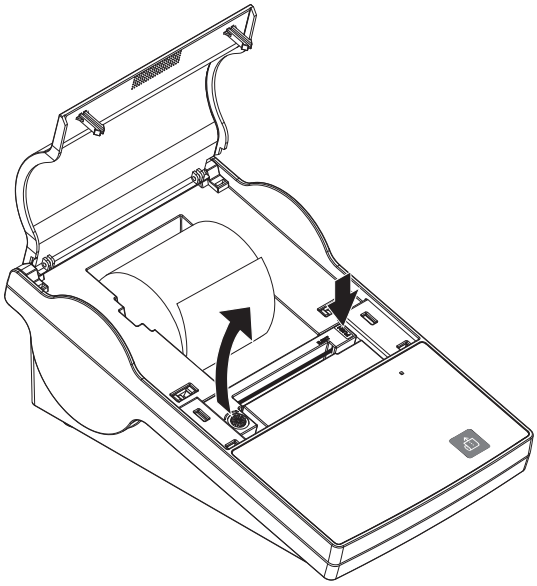
2 Remove the paper cutter.



3 Remove the paper from the print head by pulling the paper back.



4 Press **PUSH** on the right side of the ribbon cartridge.
   ➡ The ribbon cartridge can be removed.
5 Insert the new ribbon cartridge. Use the tension wheel for taking up slack.



6.3 Cleaning the housing

The data writer housing is made of top grade, resistant materials. Therefore, all commercially available mild cleaning agents can be used.

7 Troubleshooting

Note

If any issue occurs that is not described in this section, please contact your METTLER TOLEDO representative.

Problem	Solution
The data writer is switched on but the LEDs do not light up.	• Check the power supply.
The paper roll is correctly installed but nothing is printed.	• Make sure that the ribbon cartridge is correctly installed. • Check if the ribbon cartridge needs replacing.
The paper roll does not move correctly and there is no print on some parts of the paper.	• Check the power supply. • Check if the ribbon cartridge needs replacing.
The printed image is fading.	• Check if the ribbon cartridge needs replacing.
The data writer can't connect balance anymore until restart balance.	• Switch the data writer off and on.
The connection cable is correctly installed but the data writer does not print.	• Check the connection settings of the data writer and/or the connected device.
The status indicator is flashing but the data writer does not print.	• Check if the connection cable is correctly installed.

8 Technical Data

8.1 General technical data

Power Supply

AC/DC Adapter:	Primary: 100 V - 240 V, ±10%, 50/60 Hz, 1.6 A Secondary: 24 V DC, 2.5 A (with electronic overload protection)
Power supply to the data writer:	24 V DC, 2.5 A

Protection and Standards

Overvoltage category	II
Degree of pollution	2
Standards for safety and EMC	Declaration of Conformity (part of standard equipment)
Range of application	Indoor use only

Environmental Conditions

Height above mean sea level	up to 4000 m
Ambient temperature range	Operation: 5°C ~ 40°C Storage: -25°C ~ 60°C
Relative air humidity	20% ~ 80% up to 31°C decreasing linearly to 50% at 40°C, non-condensing
Connections	• RS232 port (Male DB 9) • USB device port (B-type) • Ethernet 10/100base-TX port (RJ-45)

Data writer Features

Print technology	Dot matrix
Printing unit	Dot matrix print head 5x7, 24-character line length
Printing speed	2.3 lines per second
Print quality	Light resistant and thermally stable printing (GLP, GMP, ISO 9001)

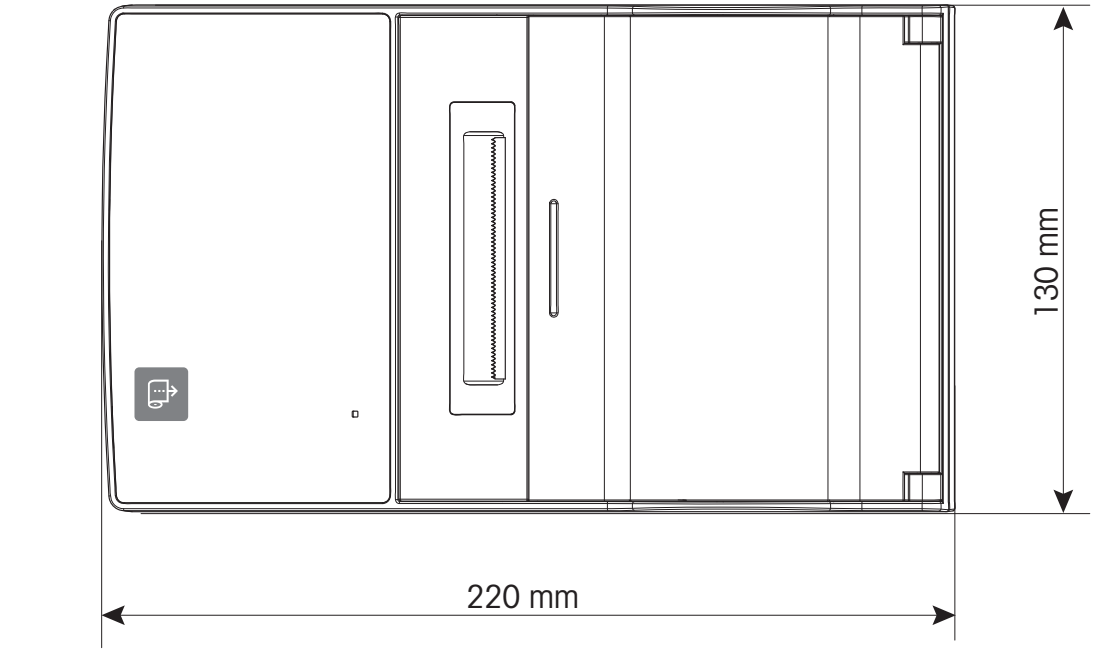
Materials

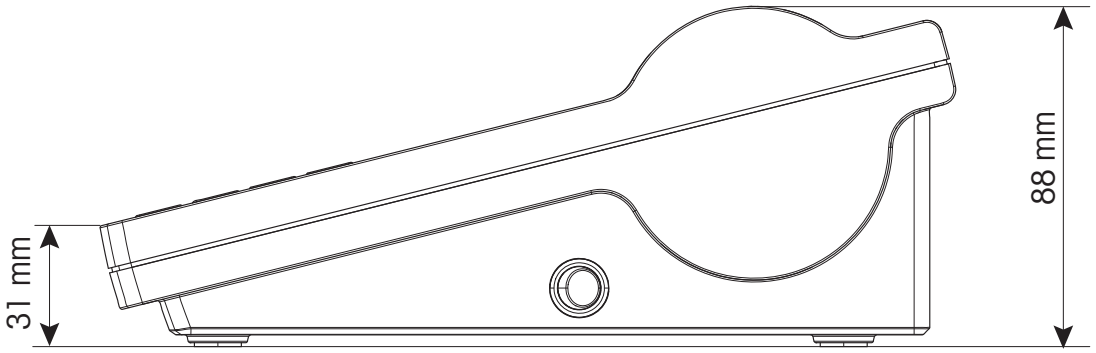
Top housing	Die-cast zinc, chromed and plastics (PBT)
Bottom housing	Plastics (PBT)
Paper cutter	Plastics (PBT)
Paper cutter slot	Polycarbonate plastics (PC)

Dimension / Weight

Length	220 mm
Height	88 mm
Width	130 mm
Net Weight	1.25 kg, without AC/DC adapter

8.2 Dimensions





9 Disposal

In conformance with the European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. If you have any questions, please contact the responsible authority or the distributor from which you purchased this device. Should this device be passed on to other parties, the content of this regulation must also be related.

10 Accessories and Spare Parts

10.1 Accessories

Bluetooth RS232C serial adapter ADP-BT-P, set of 2 pcs — 30086495

For wireless connection between:

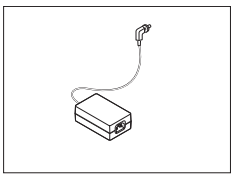
- Instrument and PC (depending on the instrument model)
- Data writer and instrument

Bluetooth RS232 serial adapter set for wireless connection between XPE/XSE/XS balances and P5x data writers. — 30237797

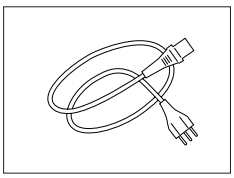
- Paired set of Bluetooth adapters
- RS232 option with 12V power

Anti-theft cable with lock — 11600361

10.2 Spare parts

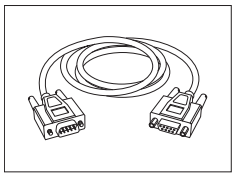


AC/DC adapter (without power cable) 100–240 V AC, 50/60 Hz, auto switching, 24 V DC, 2.5 A — 30094772

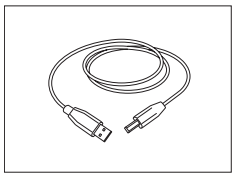


Country-specific 3-pin power cable with grounding conductor 100V - 240V 10A

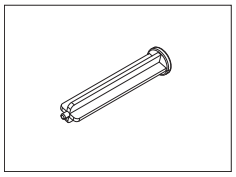
Power cable AU	00088751
Power cable BR	30015268
Power cable CH	00087920
Power cable CN	30047293
Power cable DK	00087452
Power cable EU	00087925
Power cable GB	00089405
Power cable IL	00225297
Power cable IN	11600569
Power cable IT	00087457
Power cable JP	11107881
Power cable TH, PE	11107880
Power cable US	00088668
Power cable ZA	00089728



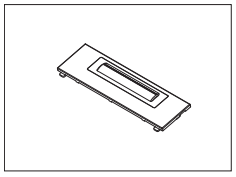
RS9 – RS9 (m/f): connection cable for PC, length = 1 m 11101051



USB (A –B) connection cable, length = 1 m 30241476

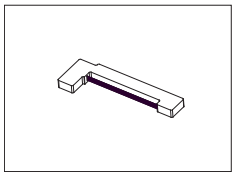


Paper rotary axis 12120735

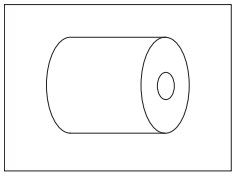


Paper cutter 30237295

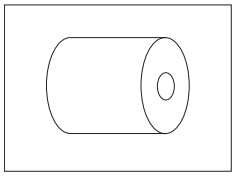
10.3 Consumables



Ribbon cartridge, black 00065975



Paper roll, white,
57 mm x 20 m, 5 pcs 00072456



Paper roll, white, self-adhesive,
58 mm x 13 m, 1 pc 11600388

Index

A

Anti-theft slot 5
Auto connection 10

C

Changing default value 13
Cleaning the housing 15
Connection
  RS232 10
convention 3

D

Default settings 10
disposal 19

E

environmental conditions 8
Ethernet connection 5

H

Housing 15

I

install
  site 8

L

location 8

M

maintenance 14
Menu mode 7, 12

O

Operation Mode 7

P

Paper cover 5
Paper cutter 5
Paper feed button 5, 7
Paper rotary axis 5
Power switch 5
Print head 5

R

Ribbon cartridge 5
Replacing ribbon cartridge 14
RS232 connection 5

S

safety information 4
Setting default value 13
Status indicator 5
symbol 3
  warning 4

T

transporting the accessory 11

U

USB connection 5

W

warning symbol 4

GWP®

Good Weighing Practice™

GWP® is the global weighing standard, ensuring consistent accuracy of weighing processes, applicable to all equipment from any manufacturer It helps to:

- Choose the appropriate balance or scale
- Calibrate and operate your weighing equipment with security
- Comply with quality and compliance standards in laboratory and manufacturing

www.mt.com/GWP

www.mt.com/lab-printers

For more information

Mettler-Toledo GmbH
Im Langacher 44
8606 Greifensee, Switzerland
www.mt.com/contact

Subject to technical changes.
© 06/2022 METTLER TOLEDO. All rights reserved.
30348460B en

30348460