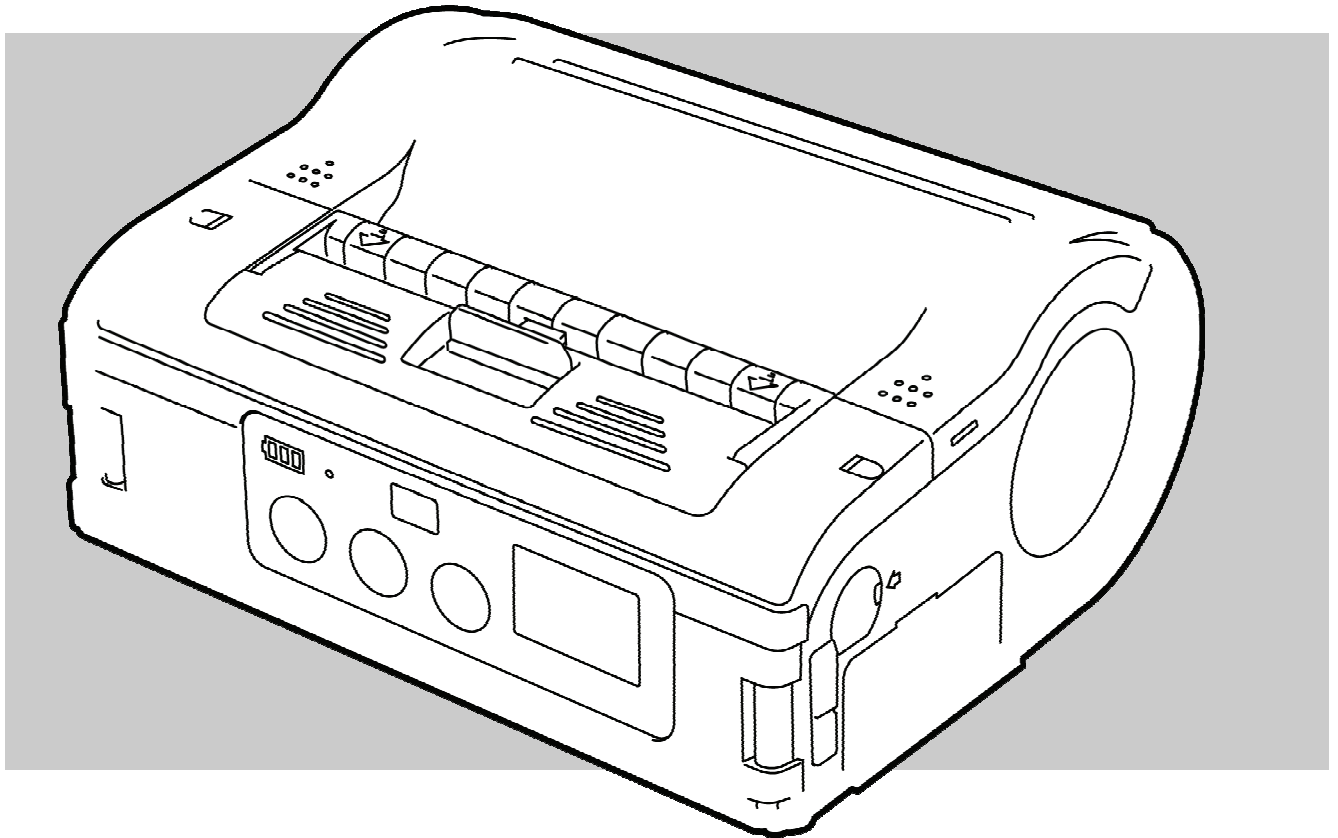


# Quick Guide

**Barcode Printer**  
**MB 400i / MB 410i**



**DCS & Labelling Worldwide**



Doc. ID: 01453

**Read the quick guide before starting work!**

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# 1 General

## 1.1 Information on this quick guide

This quick guide provides important information on how to handle the device.

Make sure to read this quick guide before using this printer! It is an integral part of the product and must be kept in the immediate vicinity of the device to be available to the operating staff.

When transferring the device to third parties, make sure to include this quick guide.



**NOTE!**

*For more detailed device information, please refer to the included CD-ROM.*

## 1.2 Limitation of liability

All information and notes in this manual were compiled under due consideration of valid standards and regulations, the present status of technology and our years of knowledge and experience.

The manufacturer can not be made liable for damage resulting from:

- disregarding these instructions
- unintended use
- employment of untrained personnel
- unauthorized conversions
- technical modifications
- use of unapproved spare parts

In case of special versions the actual scope of delivery can vary from the explanations and representations in this manual, because of the utilization of additional order options or due to latest technical changes.

Apart from this, the obligations agreed upon in the delivery contract, the General Terms of Business and the delivery conditions of the manufacturer and the legal regulations valid at the time of contract do apply.

## 1.3 Copyright

Treat the operating instructions confidentially. They are only intended for persons working with or on the device. Passing these operating instructions on to third parties without the written consent of the manufacturer is not permitted.

**NOTE!**

*The contents of these instructions, texts, drawings, pictures and other representations are protected by copyright law subject to industrial property rights. Any misuse is punishable.*

Reproduction of any kind – even in form of excerpts – as well as the use and/or disclosure of the contents without the written consent of the manufacturer is not permitted. Violations oblige to compensation. The right for further claims remains reserved.

## 1.4 Warranty conditions

The warranty conditions are attached to the sales documents as a separate document.

## 1.5 Customer service

Our Customer Service is always available for technical information. Notes on the responsible contact partner are on call by phone, fax, e-mail or via internet, see address of manufacturer on page 2.

Apart from that, our members of staff are permanently interested in receiving new information and experience resulting from the use of our products and which could be of great value for future improvements.

## 1.6 Explanation of symbols

### Warnings

In these operating instructions warnings are identified by symbols. These notes are introduced by signal words, which express the severity of a danger.

Adhere to these notes and act cautiously in order to avoid accidents, personal injuries and damage to property.



#### **DANGER!**

... points to an immediately dangerous situation, which can lead to severe injury if not avoided.



#### **WARNING!**

... points to an immediately dangerous situation, which can lead to severe injury if not avoided.



#### **CAUTION!**

... points to a possibly dangerous situation, which can lead to minor or light injury if not avoided.



#### **CAUTION!**

... points to a possibly dangerous situation, which can lead to material damage if not avoided.

### Hints and recommendations



#### **NOTE!**

... emphasizes useful hints and recommendations as well as information for efficient and problem free operation.

## 2 Safety

This paragraph provides you with an overview of all important safety aspects for optimal protection of personnel as well as safe and trouble-free operation.

Disregarding the operating instructions and safety regulations specified in this manual may result in considerable danger.

### 2.1 Intended use

The printer may only be used for printing bar code labels using the printing materials recommended by the manufacturer.

**WARNING!****Danger when device is used inappropriately!**

Any use for purposes exceeding and/or deviating from the intended use of the device may lead to dangerous situations.

Therefore:

- Use the device only for its intended purpose.
- Strictly adhere to all information provided in this manual.
- In particular, avoid using the device for the following purposes, as they are held to be inappropriate:
  - use of inappropriate printing materials (e.g. clothing, cardboard, foreign objects).

No liability shall be assumed for any claims arising from damages resulting from any inappropriate use.

Damages resulting from inappropriate use shall be the sole responsibility of the operator.

**CAUTION!**

Do not disassemble the printer or alter its components in any way.  
Do not open the device any further than specified in this manual.



## 2.2 Incorrect use

The applications listed here may lead to errors, the destruction of the device or injury.

- Using printing materials other than the specified materials (e.g. inappropriate paper, clothing, cardboard).
- Inserting foreign objects into the printer.
- Use of non-permissible accessories.
- Contact with liquids.
- Setting up the printer on uneven or slanted surfaces.
- Exposing the printer to serious vibrations.
- Extreme temperatures or great variations in temperature including moisture formation.
- Operating the printer in extremely dusty environments.
- Long-term exposure to extreme sunlight may affect the optical sensors and may cause the capturing of labels to become incorrect.
- Danger of electrical interferences and voltage drops by adjacent machines with a high power consumption.

## 2.3 Special dangers

Observe the safety information listed here and the warnings contained in the following chapters of this manual to reduce health risks and avoid potentially dangerous situations.

### Electric current

**DANGER!****Danger to life caused by electric current!**

Touching live components may cause life-threatening injuries. Damage to the insulation or individual components may cause life-threatening injuries.

Therefore:

- Switch off the device and secure it against turning back on before performing any maintenance or cleaning.
- If you detect any damage to the power supply of the insulation, switch off the device immediately and have it repaired.
- Prevent any live components from becoming moist, as this may cause fault currents.
- Disconnect the power cable by pulling the plug rather than by pulling at the cable.
- Do not bend, twist or crush the power cable.

### Battery packs

**WARNING!****Risk of injury when handling battery packs in an inappropriate manner!**

Rechargeable battery packs must be handled with special care.

Therefore:

- Do not cast battery packs into an open fire or expose them to high temperatures. There is a risk of explosion.
- Any liquid seeping through due to inappropriate handling may cause skin irritations. Avoid touching such liquid. Rinse thoroughly when coming into contact with such liquid. When such liquid comes into contact with your eyes, rinse out your eyes immediately for 10 minutes and seek immediate medical attention.



**CAUTION!**  
**Reduced battery life due to inappropriate handling!**

Handling battery packs in an inappropriate manner may lead to a decrease in their life span.

Therefore:

- Use only the original charging station. Other charging stations may destroy the battery packs.
- Do not exceed the specified charging time.
- When replacing the battery packs, make sure to replace all of them.
- If possible, perform only complete charging-discharging-cycles.

### Easy cutter



**CAUTION!**  
**Risk of injury at the easy cutter!**

The easy cutter used to cut the labels may cause cuts and skin abrasions.

Therefore:

- Use caution when working in the proximity of the easy cutter.
- When in doubt, wear protective gloves.

## 3 Transport and storage

### 3.1 Transport information

- Unplug the power cable before transporting the printer.
- Remove any installed battery packs from the device.

### 3.2 Storage

- When storing the printer for an extended period of time, protect it against influences such temperature, sun exposure, and moisture.

**Overview**

**4 Overview**

**4.1 Parts and functions**

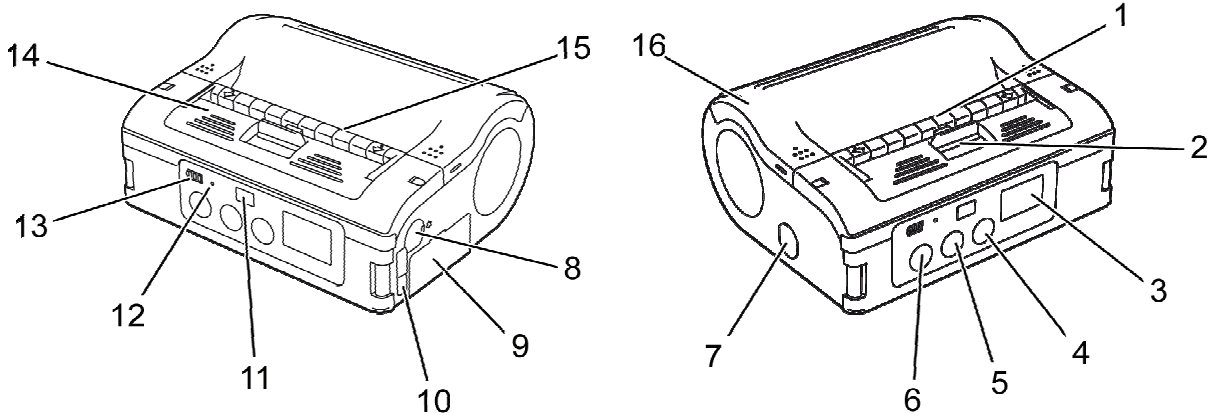


Fig. 1: Overview 1

- |                               |                                    |
|-------------------------------|------------------------------------|
| 1 Easy cutter                 | 9 Battery pack drawer              |
| 2 Cover opening/closing lever | 10 UBS port                        |
| 3 LCD display                 | 11 Infrared communication filter   |
| 4 FEED key                    | 12 STATUS LED                      |
| 5 PRINT key                   | 13 Remaining battery power display |
| 6 POWER key                   | 14 Peeling unit                    |
| 7 Power connector             | 15 Label dispenser                 |
| 8 RS-232C connector           | 16 Printer cover                   |

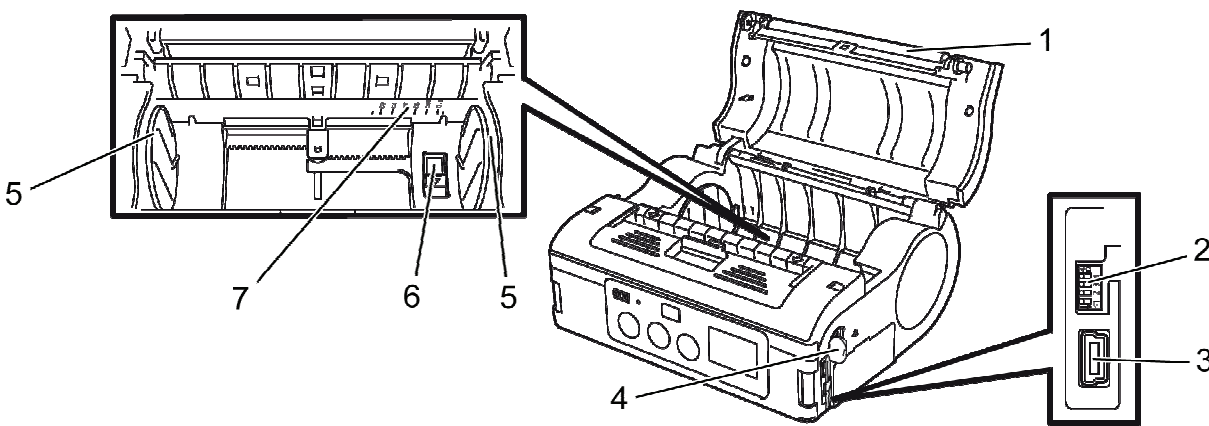
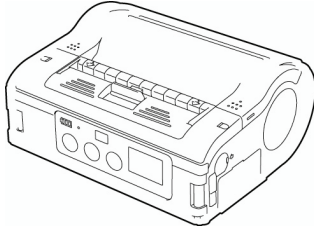


Fig. 2: Overview 2

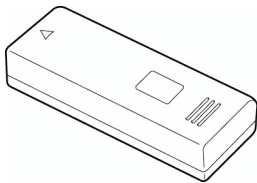
- |                     |                       |
|---------------------|-----------------------|
| 1 Platen            | 5 Label guide         |
| 2 DIP switch        | 6 Label guide stopper |
| 3 USB connector     | 7 Label width scale   |
| 4 RS-232C connector |                       |

## 4.2 Included accessories

The following parts are included with your label printer. Should an accessory be missing, please contact your supplier or the customer service center closest to you.



- Printer



- Power cable
- Battery pack



- Quick guide

- CD-ROM including comprehensive user manual

## Setup and initial operation

### 5 Setup and initial operation

#### 5.1 Connecting the device and the battery pack

##### 5.1.1 Charging the battery pack using the charging station

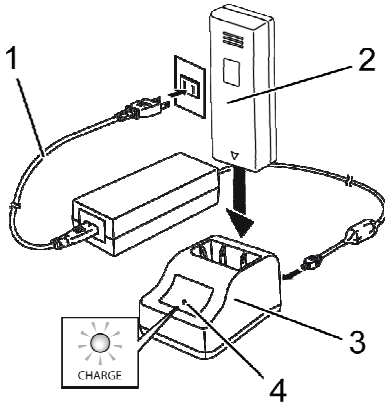


Fig. 3: Charging the battery pack

1. Connect the power cable (1) with the charging station (3) and your power outlet.
2. Insert the battery pack (2) into the charging station (3) with the clamp facing downwards.

The lit LED (4) indicates that the battery pack is being charged.. Once the battery pack is fully charged, the LED (4) turns green.

3. When the battery pack has been charged, remove it from the charging station.



#### CAUTION!

When charging the battery pack, use only the charging station included with the device to prevent the battery pack from becoming damaged.

##### 5.1.2 Inserting the battery pack

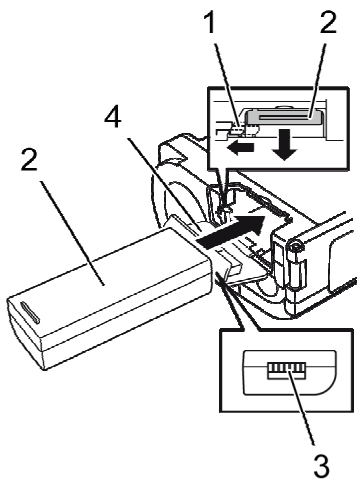


Fig. 4: Inserting the battery pack

1. Flip the cover (4) open to the front.
2. Push and hold the gray hook (1) while sliding in the battery pack (2).



#### NOTE!

The battery pack clamp (3) must face towards the printer.

3. Before removing the battery pack, make sure to turn off the printer by pressing the POWER key. Wait until the STATUS LED has turned off.
4. Press the gray hook (1) to release the lock and remove the battery pack (2).

### 5.1.3 Connecting the power cable

1. Connect the power cable to the power connector on the printer and to your power outlet if you want to use the printer at a fix location.

**NOTE!**

*Use only the power cable included with your printer.*

Any inserted battery pack will be charged automatically when the power cable is connected. The remaining battery power display will glow red during charging. The indicator will turn off once the battery pack has been charged.

### 5.1.4 Removing the power cable

1. Before removing the power cable, make sure to turn off the printer by pressing the POWER key.
2. Now, pull the power cable from the power outlet.

## 5.2 Inserting labels

### 5.2.1 Setting the printing mode

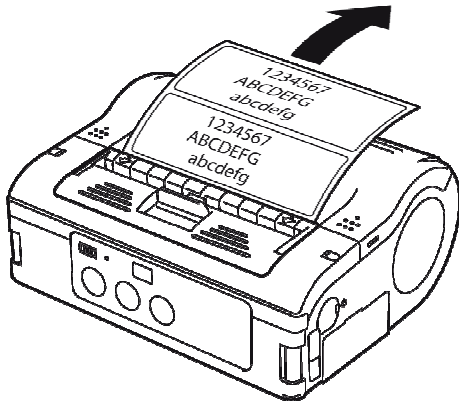


Fig. 5: Continuous printing mode

Before inserting any labels, make sure to select the desired printing mode.

Select **Continuous printing mode** if you want to print labels continuously. The labels will then stick to the roll after they have printed.

If you select **Peeling printing mode**, you will have to peel off the labels first after they have printed

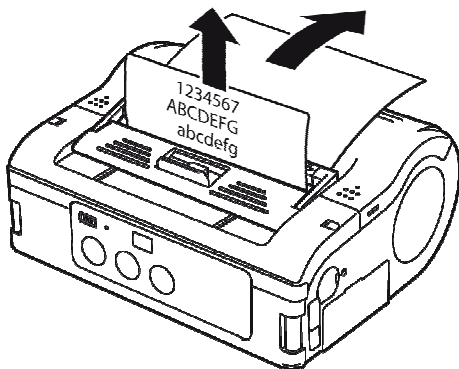


Fig. 6: Peeling printing mode



#### NOTE!

For further information on how to configure printing modes, please refer to the included CD-ROM.

#### Changing the printing mode

1. Check if the printer cover has been closed.
2. Push the printing mode switch lever upwards and keep it depressed.

#### Switching to continuous printing mode

3. Pull the peeling unit towards you following the direction of the arrow.

#### Switching to peeling printing

4. Move the peeling unit backwards in the direction of the arrow.

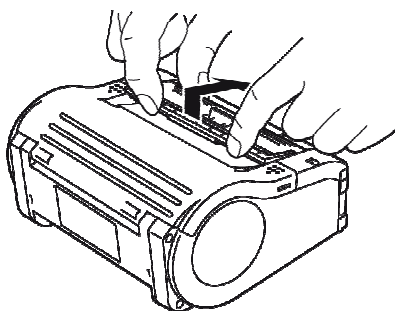


Fig. 7: Changing the printing mode



#### CAUTION!

#### Risk of damage to property!

Do not move the peeling unit unless the printer cover has been closed, as the peeling unit may otherwise become damaged.



### 5.2.1.1 Continuous printing mode

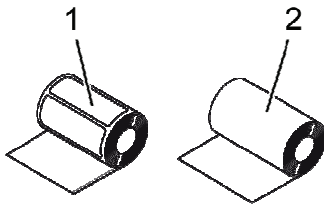


Fig. 8: Types of paper

Use only the following types of labels:

- Label paper (1)
- Journal paper (2)

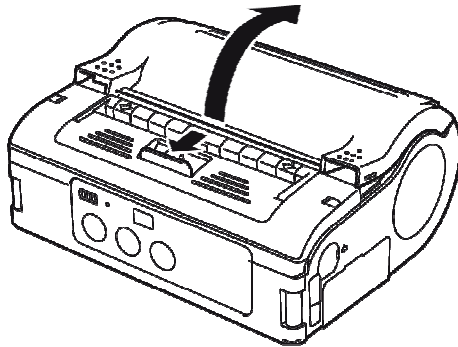


Fig. 9: Opening the printer cover

1. Slide the cover opening/closing lever forward in the direction of the arrow.
2. Pivot the printer cover backwards in the direction of the arrow.

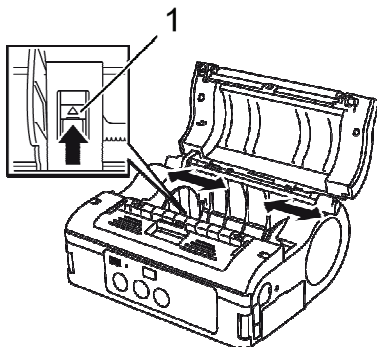


Fig. 10: Adjusting the label guide

3. Press and hold the label guide stopper (1).
4. Slide the label guide to the label size to be used.

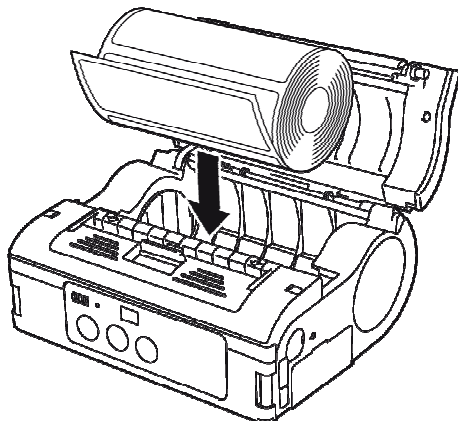


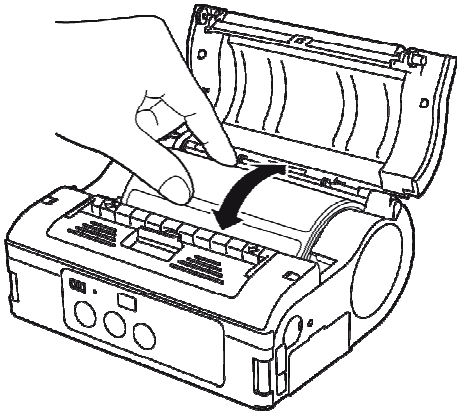
Fig. 11: Inserting the paper roll

5. Insert the paper roll into the printer.



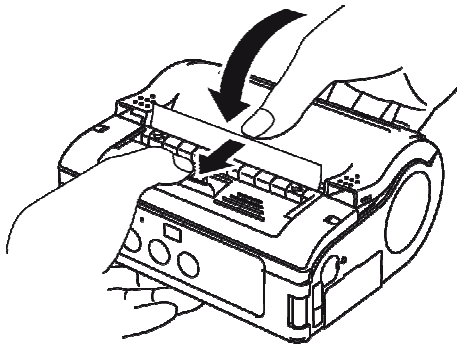
**NOTE!**

Make sure the paper roll is well aligned to prevent paper jams.



*Fig. 12: Checking roller rotation*

6. Confirm that the label roll rotates easily by hand.
7. If rotation is labored, remove the label roll again.
8. Re-adjust the label guide as specified above.
9. Once again, confirm that the roll rotates easily.



*Fig. 13: Closing the cover*

10. Check that the label tip is protruding.
11. Pull the cover opening/closing lever in the direction of the arrow while closing the printer cover carefully.

The printer is now ready to print labels in continuous printing mode.

### 5.2.1.2 Peeling printing mode

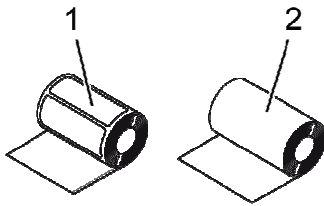


Fig. 14: Types of paper

Use only the following types of labels:

- Label paper (1)
- Non-separated labels (2)

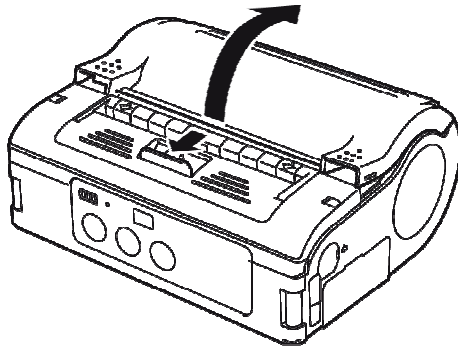


Fig. 15: Opening the printer cover

1. Slide the cover opening/closing lever forward in the direction of the arrow.
2. Pivot the printer cover backwards in the direction of the arrow.

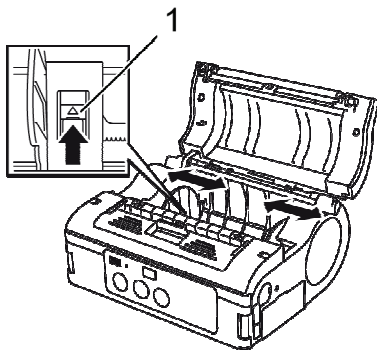


Fig. 16: Adjusting the label guide

3. Press and hold the label guide stopper (1).
4. Slide the label guide to the label size to be used.

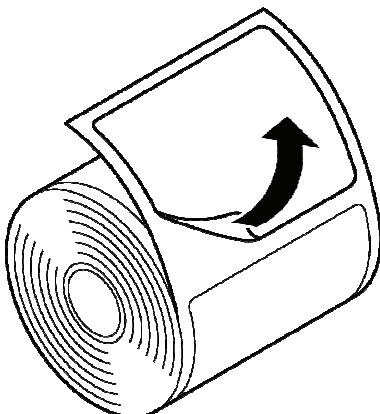


Fig. 17: Peeling off the label

5. Peel the label at the tip of the label paper.



**NOTE!**

*Peeling is not required for non-separated labels.*

## Setup and initial operation

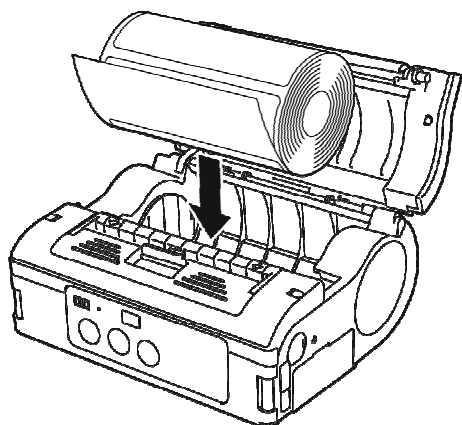


Fig. 18: Inserting the paper roll

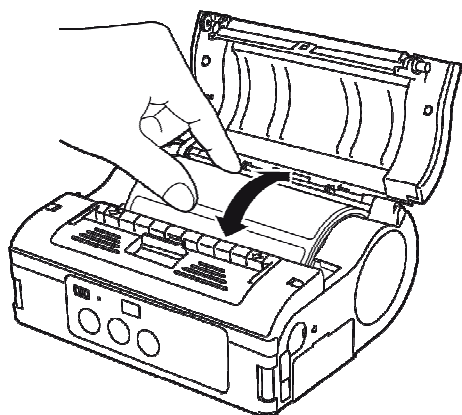


Fig. 19: Checking roller rotation

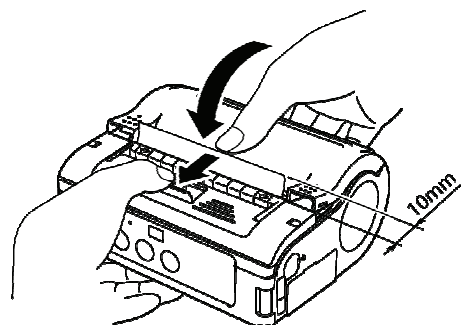


Fig. 20: Closing the cover

6. Insert the paper roll into the printer.



**NOTE!**

*Make sure the paper roll is well aligned to prevent paper jams.*

7. Confirm that the label roll rotates easily by hand.
8. If rotation is labored, remove the label roll again.
9. Re-adjust the label guide as specified above.
10. Once again, check if the roll rotates easily.
11. Pull out the label tip approx. 10 mm.
12. Slide the cover opening/closing lever in the direction of the arrow while closing the printer cover carefully.
13. When using non-separated labels, press the FEED key to feed one sheet,
14. and pull upward to cut along the perforated line.
15. If the labels clog at the dispenser, restart the label setting process from the beginning.

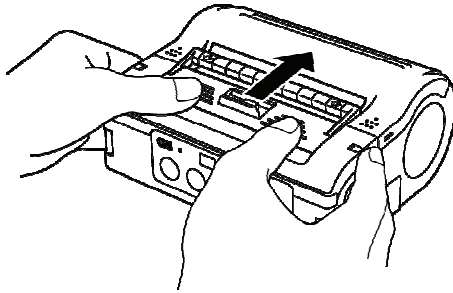


Fig. 21: Sliding the peeling unit forward

16. Slide the peeling unit forward until it stops.

The printer is now ready to print labels in peeling printing mode.



**NOTE!**

When using peeling printing mode, make sure to follow the procedure above to switch the peeling unit from peeling printing mode to continuous printing mode before changing the paper.

## 5.3 Setting up communication

### 5.3.1 General information



**NOTE!**

For more information on how to set up communication, please refer to the included CD-ROM.

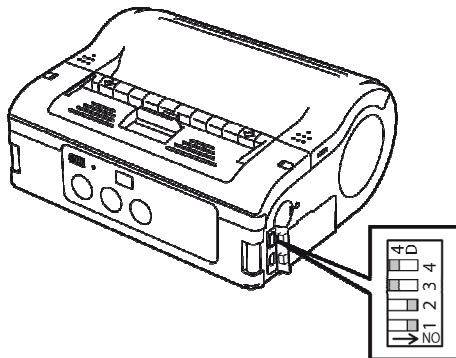


Fig. 22: DIP switch

The interface connectors are equipped with a quadruple DIP switch that can be used to configure the printer output.

1. Open the port covers to access the DIP switch.

## Setup and initial operation

### 5.3.2 Connecting the USB cable

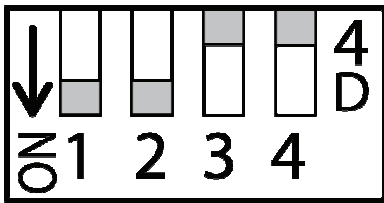


Fig. 23: Configuring the USB connector

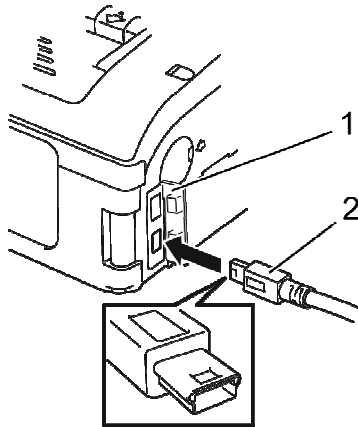


Fig. 24: Connecting the USB Cable

1. Adjust the DIP switch settings as follows:

- Switch 1 → ON
- Switch 2 → ON
- Switch 3 → OFF
- Switch 4 → OFF

2. Insert the USB cable (2) into the connector.



**NOTE!**

Match the arrow on the USB cable connector with the arrow beside the printer connector.

3. Close the printer cover (1).
4. Connect the other end of the USB cable to the connector on the PC or the handheld terminal.

### 5.3.3 Connecting the RS-232C cable

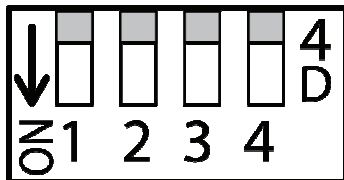


Fig. 25: Configuring the RS-232C cable

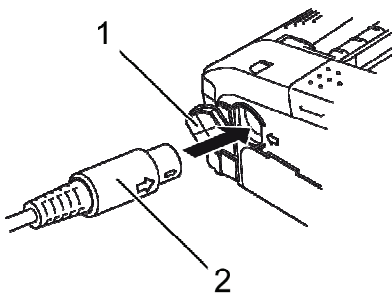


Fig. 26: Connecting the RS-232C cable

1. Adjust the DIP switch settings as follows:

- Switch 1 → OFF
- Switch 2 → OFF
- Switch 3 → OFF
- Switch 4 → OFF

2. Remove the RS-232C connector cover.

3. Insert the RS-232C cable into the connector.



**NOTE!**

Match the arrow on the RS-232C cable connector with the arrow beside the printer connector.

4. Connect the other end of the RS-232C cable to the connector on the PC or the handheld terminal.

### 5.3.4 Setting up infrared communication

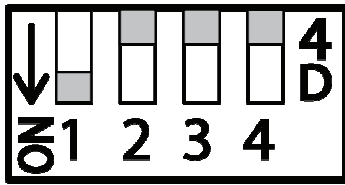


Fig. 27: Setting up infrared communication

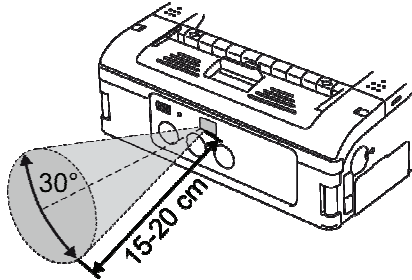


Fig. 28: Recommended operating distance

1. Adjust the DIP switch settings as follows:

- Switch 1 → ON
- Switch 2 → OFF
- Switch 3 → OFF
- Switch 4 → OFF

2. Adjust the printer position such that the infrared signal does not have to travel for more than 20 cm and the PC or handheld terminal is within a 30° area vertically and horizontally (cone shape) from the center of the infrared communication filter.



**NOTE!**

*Infrared communication may be affected by external influences (e.g. direct sunlight). If you experience any problems, reduce the distance to the infrared communication filter.*

### 5.3.5 Setting up Bluetooth® / Wireless LAN

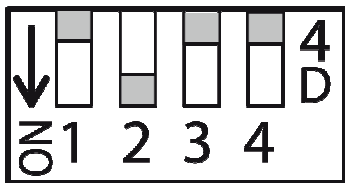


Fig. 29: Setting up Bluetooth® / wireless LAN

1. Adjust the DIP switch settings as follows:

- Switch 1 → OFF
- Switch 2 → ON
- Switch 3 → OFF
- Switch 4 → OFF

## Operation

# 6 Operation



### NOTE!

For more detailed information on how to operate the printer, please refer to the included CD-ROM.

## 6.1 Switching the printer on

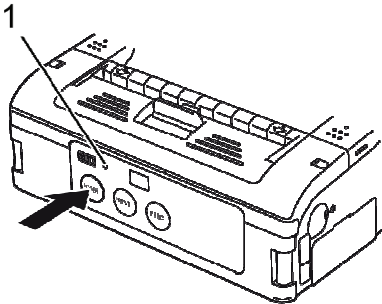


Fig. 30: Switching the printer on

1. Press and hold the POWER key until the STATUS LED (1) lights green.
2. Release the POWER key.
3. Press the POWER key again until the STATUS LED (1) turns off.
4. Release the POWER key again.

## 6.2 Test printing

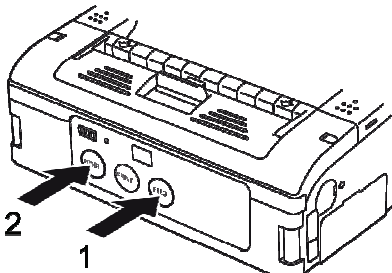


Fig. 31: Test printing

1. Press the FEED key (1) and the POWER key (2) at the same time.  
The printer is now set to testing mode.
2. Press the FEED key (1) again to start test printing.
3. Make sure the test printout contains only complete characters and is of good enough quality.



### NOTE!

In testing mode, the remaining battery power is displayed by three vertical bars. If all three bars are hatched, the battery pack is fully charged. However, if only one bar is hatched, recharge the battery pack.



## 6.3 Printing

The printer can be used for stationary or mobile printing. The following keys are important in connection with the operation of the printer.

| Key          | Function                                       |
|--------------|--|
| <b>POWER</b> | Switching the printer on                       |
| <b>PRINT</b> | Switching between online and offline operation |
| <b>FEED</b>  | Manual paper feed                              |

When switched on and loaded with label paper, the printer is ready for printing.

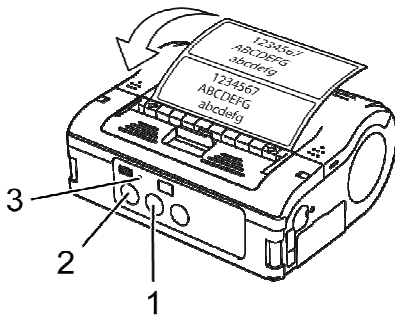


Fig. 32: Printing

1. Start printing from your PC or handheld terminal. The STATUS LED lights orange.
2. When printing is complete, hold the left upper corner of the label, pull it in the direction of the arrow, and cut the label.

If the next label is not printed, proceed as follows:

1. With the printer online, press the PRINT key (2) to take the printer offline. The STATUS LED turns off.
2. Press the FEED key (1) to feed labels manually.
3. When the paper stops, pull it in the direction of the arrow to cut the label.
4. Press the PRINT key (2) to switch the printer back online..

The STATUS LED (3) lights green. The printer is ready to operate again.

## 7 Disposal

Dispose of the device as specified by the corresponding national regulations.

**CAUTION!****Risk of environmental damage in case of inappropriate disposal!**

Electric devices and their accessories are subject to special waste treatment and may only be disposed of by approved specialized waste disposal companies.

### WEEE/RoHS Statement

SATO is committed to being a responsible corporate citizen of the world. We understand the importance of marketing, designing, manufacturing and distributing products with a low environmental burden.

Company-wide projects have been undertaken to implement both the Waste Electric and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS) initiatives.

All products brought into the market after July, 1<sup>st</sup> 2006 of SATO fulfil the requirements of the EU directives 2002/96/EG (Electric and electronic apparatus disposal) and 2002/95/EG (RoHS = Reduction of harmful substances in electric and electronic apparatus). All products are marked accordingly.

### Accumulators / batteries

Accumulators and batteries contain toxic heavy metals. They are considered hazardous waste and must be disposed of by approved specialized waste disposal companies.

## 8 Maintenance

The device must be cleaned on a daily basis.



**DANGER!**

**Danger to life caused by electric current!**

Switch off the device and disconnect the power plug before performing any cleaning.

Remove the battery pack from the device.

### Cleaning

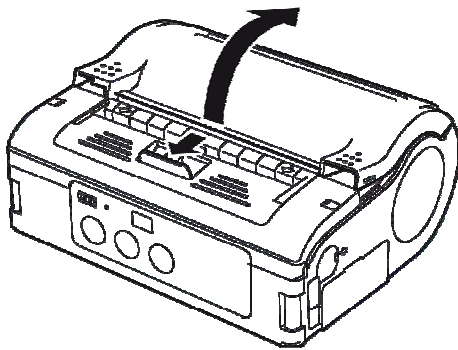


Fig. 33: Opening the printer cover

1. Slide the lever in the direction of the arrow to open the printer cover.



**NOTE!**

When in peeling printing mode, first slide the peeling unit to the continuous printing mode position.

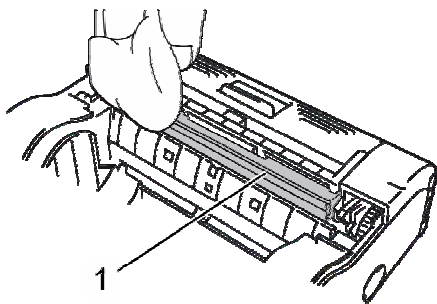


Fig. 34: Peeling roller

2. Clean the peeling roller (1) and the platen (2) with a cloth dipped in alcohol.



**NOTE!**

Do not use thinner, benzene or kerosene.

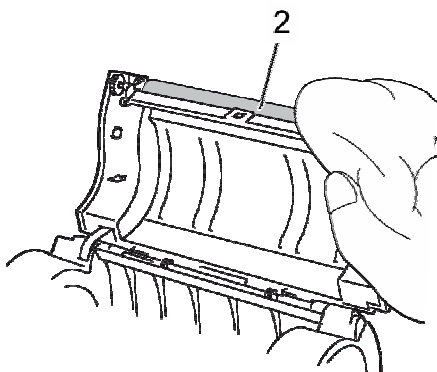


Fig. 35: Cleaning the platen

## 9 Troubleshooting

The status of this printer is indicated by the STATUS LED and a buzzer sound.


**CAUTION!**

**Do not disassemble the device!**

When in doubt, contact our Customer Service or your local specialist dealer.

| STATUS LED  | Buzzer sound      | Mode                   | Possible cause  | Correction   |
|---|-------------------|------------------------|---|--|
| LED on (red)  |                   | All                    | Low battery   | Charge battery   |
| LED blinking every 2 seconds                              | Long              | Online                 | W-LAN / Bluetooth disruption                          | → Customer Service   |
| LED on (red)  |                   | After turning power on | Read/write error in Flash ROM                         | → Customer Service   |
| LED blinking alternately green/red every 2 seconds        | Long              | Online                 | Broken wire in thermal head                           | → Customer Service   |
| LED blinking every 0.5 seconds                            | Three short beeps | Online                 | Printer cover open                                    | Close cover  |
|   |                   |                        | Label roll missing                                    | Insert new label roll  |
|   |                   |                        | Sensor error  | Adjust sensor type<br>Re-install label roll                            |
| LED blinking green every 1 second                         | Long              | Online                 | Communication error                                   | Check communication and cable connections                              |
| LED blinking green every .5 seconds                       | Long              | Online                 | Buffer almost full                                    | Pause data transmission, wait for the buffer to empty, retransmit data |
| LED blinking every 4 seconds                              | Long              | Online                 | Buffer overflow<br>Incorrect communication conditions | Check communication conditions   |
| LED blinking green every 4 seconds                        |                   | All                    | Sleep mode  | Press any key  |
| Patterned LED lighting every 1 second (red-off-green-off) |                   | All                    | Thermal head overheating protection enabled           | Automatically disabled when head has cooled off.                       |
| LED blinking alternately green/orange every 0.5 seconds   |                   | Online                 | Manual peeling printing                               | Press PRINT key to print one label                                     |

## 10 Technical data

### 10.1 General information

| Item             | Value | Unit |
|------------------|-------|------|
| Weight (maximum) | 750   | g    |
| Depth            | 69    | mm   |
| Width            | 175   | mm   |
| Height           | 129   | mm   |

### 10.2 Connection values

#### Electrical connection

| Item                | Value | Unit |
|---------------------|-------|------|
| Alternating voltage | 100   | V    |

#### Battery pack

|                     |       |     |
|---------------------|-------|-----|
| Lithium ion battery | 1,700 | mAh |
|---------------------|-------|-----|

### 10.3 Operating conditions

#### Environmental requirements

| Item                                 | Value     | Unit |
|--------------------------------------|-----------|------|
| Temperature range (operation)        | -15...+50 | °C   |
| Temperature range (storage)          | -25...+60 | °C   |
| Relative humidity,<br>non-condensing | 20...80   | %    |

### 10.4 Emissions

| Item           | Value | Unit  |
|----------------|-------|-------|
| Noise emission | ≤ 70  | dB(A) |

## 10.5 Other specifications

### General

|                 |   |
|-----------------|---|
| Models          | MB 400i / MB 410i   |
| Printing method | Thermal printing  |
| Rollers         | Outside wind,<br>max. 58 mm in diameter                   |
| Sensor type     | Reflective sensor (eye marks),<br>transmission type (gap) |

### Printing properties

| Item   | Model                    | Value                  | Unit  |
|--|--------------------------|------------------------|-------|
| Resolution   | MB 400i                  | 203                    | dpi   |
|  |                          | 8                      | pt/mm |
|  | MB 410i                  | 305                    | dpi   |
|  |                          | 12                     | pt/mm |
| Item   |                          | Value                  | Unit  |
| Label size<br>(backing liner and eye-<br>mark pitch) | Standard                 |                        |       |
|  | Width                    | 50 - 111<br>(53 - 114) | mm    |
|  | Pitch                    | 25 - 297<br>(28 - 300) | mm    |
|  | Peeling                  |                        |       |
|  | Width                    | 50 - 111<br>(53 - 114) | mm    |
|  | Pitch                    | 25 - 182<br>(28 - 185) | mm    |
|  | Non-separated            |                        |       |
|  | Width                    | 53 - 107               | mm    |
|  | Pitch                    | 28 - 182               | mm    |
|  | Printing area            | Maximum width          | 104   |
| Pitch  |                          | 160                    | mm    |
| Maximum printing<br>speed                            | Maximum                  | 103                    | mm/s  |
|  | Peeling printing<br>mode | 75                     | mm/s  |

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