QL-30 | QL-60

USER GUIDE

QuickLabel®
An AstroNova Division

www.quicklabel.com
Toll-Free: 877-757-7978
Tel: +1 401-828-4000

QLB180 20170918

QL-30/60 User Guide

Part Number 22834676-EN-E
Revision 1.1
10/2017

QuickLabel, An AstroNova™ Division

World Headquarters
600 East Greenwich Ave., West Warwick, RI 02893
Tel: (877) 757-7978 Fax: (401) 822-2430
E-mail: info@QuickLabel.com

www.QuickLabel.com

Technical Support
Tel: (877) 757-7310
E-mail: support@QuickLabel.com
www.QuickLabel.com/support/

Copyright © 2017 AstroNova ®, Inc.

Trademarks

QL-30®, QL-60® and Custom QuickLabel Omni® are registered trademarks of AstroNova, Inc.

Windows® is a registered trademark of the Microsoft Corporation.

TrueType® is a registered trademark of Apple Computer, Inc.

ZPL® is a registered trademark of Zebra Technologies Inc.

QL-30/60 Printer Limited Warranty

QuickLabel, an AstroNova Division, warrants all components of this product, except wear parts and consumables, against defects in materials or workmanship for a period of one (1) year from the date of original purchase. Wear parts include the printhead and print platen. This warranty also excludes any cutter blade that may be incorporated in a cutter accessory installed in, integrated with or attached to the printer. If the customer discovers a defect, this defect must be reported promptly to QuickLabel. QuickLabel will, at its option, repair the printer or repair or replace its defective component(s) at no additional charge under our QuickSwap™ Parts Service. Repair parts and replacement parts will be furnished on an exchange basis and will be either reconditioned or new. The customer is responsible for freight to return the printer or component to our factory. We will ship the repaired or replaced printer or component back to you via standard ground freight service. All replaced parts become the property of QuickLabel. Travel, freight and other expenses related to warranty repairs are not covered.

The printer warranty excludes the cost to repair damage to the product caused by labels, tags or thermal transfer ribbons that are not compatible with the product. This warranty is void if the product has been damaged by accident, abuse, neglect or misapplication, or if the product has been improperly installed or maintained, or if the product has been used outside of its environmental specifications, or if the product has been modified without the express written permission of QuickLabel.

QuickLabel makes no warranty, either express or implied, with respect to this product's merchantability or fitness for a particular purpose. In no event shall QuickLabel be held liable for any direct, indirect, special, incidental, or consequential damages, whether based on a contract, tort, or any other legal theory and whether advised of the possibility of such damages.

QL-30/60 Printhead and Platen Warranty

QuickLabel Systems warrants the printhead and the platen from the date of purchase for a period of 90 days or for 1 million inches of thermal transfer ribbon, whichever comes first, contingent upon the use of QuickLabel thermal transfer ribbon. QuickLabel printheads are calibrated for use with QuickLabel thermal transfer ribbon and perform optimally only when used with this ribbon. This specific Printhead and Platen Warranty does not apply to printheads damaged by accident, abuse, neglect, misapplication or the like.

Contact Information

World Headquarters
600 East Greenwich Ave.
West Warwick, RI 02893 USA
Toll-Free: 877-757-7978 | Tel: +1 401-828-4000
quicklabel.com

European Headquarters
Waldstrasse 70
63128 Dietzenbach | Germany
Tel: +49 (0) 6074-31025-00
quicklabel.de

Canada
3505 Rue Isabelle
Suite O
Brossard, QC J4Y 2R2
Tel: +1 800-565-2216
quicklabel.ca

Latin America
Av Insurgentes Sur No 1602, 4º Piso
Suite 467
Col. Credito Constructor
Ciudad de Mexico CDMX 03940
Mexico
Tel: +52 55 1000-9116
quicklabel.com/es

Denmark
Marielundvej 46A, 2.
2730 Herlev
Tel: +45 29 64 00 05
trojanlabel.com

France
Parc Euclide
ZA la Clef de St Pierre
10A Rue Blaise Pascal
78990 Elancourt
Tel: +33 (1) 34 82 09 00
quicklabel.fr

United Kingdom
A5 Westacott Business Centre
Westacott Way, Maidenhead
Berkshire, SL6 3RT
Tel: +44 (0) 1628 668836
quicklabel.co.uk

China
1F, Bldg2#,
458 North Fu Te Road,
Shanghai Waigaoqiao F.T.Z., 200131
Tel: +86 21 5868 2809
quicklabel.cn

Ownership Information

Congratulations and thank you for your business. Your purchase of a QuickLabel digital label printer is an investment in production flexibility and packaging efficiency. Please record the model number and serial number of your product.

FCC Part 15 Compliance

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against 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 instruction manual, may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to 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.

CAUTION: Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RoHS2 Compliance

The QL-30/60 Label Printer does not contain the substances specified within ANNEX II of “Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)”, that is, lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) exceeding their specified maximum concentration values tolerated by weight in homogeneous materials, except for the exemptions set in ANNEX III of the Directive and its amendments.

This information is offered in good faith to the best of our knowledge, but is subject to revision as new information becomes available.

Declaration of Conformity

Declaration de Conformité
Ubereinstimmungserklärung
Dichiarazione di Conformità

ID	DoC-22834676
Manufacturer's name and address Nom et adresse du fabricant Hersteller Nome del costruttore	AstroNova, Inc. 600 East Greenwich Avenue West Warwick, RI 02893 USA
Model No. Modele No. Model Nr. Modello No.	QL-30 QL-60 QL-30P QL-60P QL-30M QL-60M QL-30MP QL-60MP
Description of Products Description des produits Produktbeschreibungen Descrizione dei Prodotti	Color Label Printer
Standards to which conformity is declared Standards auquel la conformité appartient Normen für welche Übereinstimmung erklärt wird Norme per le quali si dichiara la conformità	EN 60950-1:2006+A11:2009+A12:2011+A1:2010+A2:2013 EN 55032:2012 EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 61000-6-2:2005 EN 50581:2012
Application of Council Directives Application des Decisions du Conseil Anwendbar fur die Richtlinien Applicazione delle Direttive del Comitato	2014/35/EU 2014/30/EU 2011/65/EU

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive and Standard.

Je, Soussigné, déclare que l'équipment spécifié ci-dessus est en conformité avec la directive et le standard ci-dessus.

Ich, der unterzeichnende erkläre hiermit, daß das oben beschriebene Gerät den vorgenannten Richtlinien und Normen entspricht.

Il sottoscritto dichiara che l'apparecchio sopra specificato è conforme alle Direttive e Norme sopra specificate.

Steven Holbrook Quality Assurance Manager AstroNova, Inc.	Steven B. Holbrook Date of issue: 10/10/2017 Place of issue: West Warwick, RI

European Contact: Your local AstroNova, Inc. Sales and Service Office.

FRANCE - Parc Euclide, ZA la Clef de St Pierre, 10A Rue Blaise Pascal 78990 Elancourt
Tel: (+33) 1 34 82 09 00, Fax: (+33) 1 34 82 05 71

GERMANY - Waldstraße 70, D-63128 Dietzenbach
Tel. +49 (0) 6074 31 025-00, Fax: +49 (0) 6074 31 025-99

UNITED KINGDOM - Westacott Way, Maidenhead Berkshire, SL6 3RT
Tel: +44 (0)1628 668836 • Fax: +44 (0)1628 664994

Contents

Part 1

Operation

This part provides information about printer operations. This part contains the following chapters:

1 Introduction

Instructions

Important information and instructions in this documentation are designated as follows:

Danger: *Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages. Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.*

Warning: *Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.*

Caution: *Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.*

Attention: *Draws attention to potential risks of property damage or loss of quality.*

Note: *Advice to make work routines easier or on important steps to be carried out.*

Intended Use

- The device is manufactured in accordance with the current technological status and the recognized safety rules. However, danger to the life and limb of the user or third parties and/or damage to the device and other tangible assets can arise during use.
- The device may only be used for its intended purpose and if it is in perfect working order, and it must be used with regard to safety and dangers as stated in the user guide.
- The device is intended exclusively for printing suitable materials that have been approved by the manufacturer. Any other use or use going beyond this shall be regarded as improper use. The manufacturer/supplier shall not be liable for damage resulting from unauthorized use; the user shall bear the risk alone.
- Usage for the intended purpose also includes complying with the user guide, including the manufacturer‘s maintenance recommendations and specifications.

Safety Instructions

- The device is configured for voltages of 100 to 240 V AC. It must be plugged into a grounded socket.
- Only connect the device to other devices which have a protective low voltage.
- Switch off all affected devices (computer, printer, accessories) before connecting or disconnecting.
- The device may only be used in a dry environment. Do not expose it to moisture (sprays of water, mists, etc.).
- Do not use the device in an explosive atmosphere.

- Do not use the device close to high-voltage power lines.
- If the device is operated with the cover open, ensure that people‘s clothing, hair, jewelry etc. do not come into contact with the exposed rotating parts.
- The device or parts of it can become hot while printing. Do not touch during operation, and allow to cool down before changing material and before disassembly.
- Risk of crushing when closing the cover. Touch the cover at the outside only. Do not reach into the swivel range of the cover.
- Perform only those actions described in this user guide. Work going beyond this may only be performed by trained personnel or service technicians.
- Unauthorized interference with electronic modules or their software can cause malfunctions.
- Other unauthorized work on or modifications to the device can also endanger operational safety.
- Always have service work done in a qualified workshop, where the personnel have the technical knowledge and tools required to do the necessary work.
- There are various warning stickers on the device. They draw your attention to dangers. Warning stickers must therefore not be removed, as then you and other people cannot be aware of dangers and may be injured.
- The maximum sound pressure level is less than 70 dB(A).

Danger: *Danger to life and limb from power supply. Do not open the device casing.*

Warning: *This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.*

Environment

Obsolete devices contain valuable recyclable materials that should be sent for recycling. Send to suitable collection points, separately from residual waste.

The modular construction of the printer enables it to be easily disassembled into its component parts. Send the parts for recycling.

The electronic circuit board of the device is equipped with a lithium battery. Take old batteries to collection boxes in shops or public waste disposal centers.

2 Installation

Device Overview

Overview

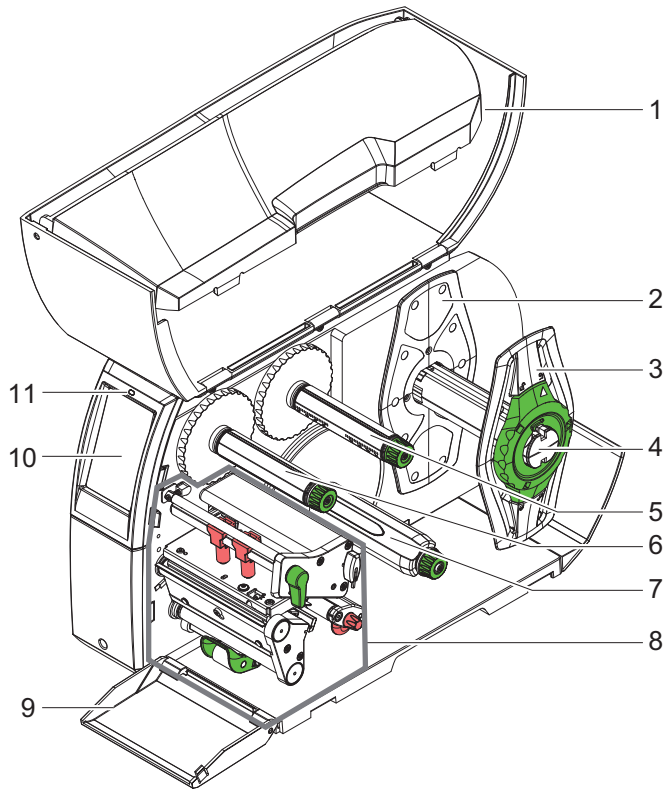


Figure 1: Overview

#	Description
1	Cover
2	Margin stop (only “M” devices)
3	Margin stop
4	Roll retainer
5	Ribbon supply hub
6	Ribbon take-up hub
7	Internal rewinder (only “P” devices)

#	Description
8	Print unit
9	Cover (not on QL-30P, QL-60P, QL-30MP, QL-60MP)
10	Touchscreen display
11	LED “Power on”

Print unit

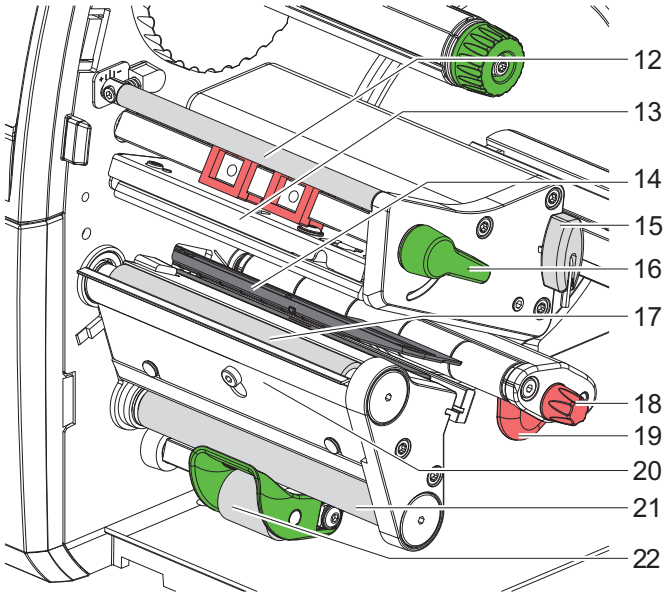


Figure 2: Print unit

#	Description
12	Ribbon deflection
13	Printhead retainer with printhead
14	Label sensor
15	Allen key
16	Printhead locking lever
17	Print roller
18	Guide adjusting knob
19	Guide
20	Dispense plate

#	Description
21	Rewind assist roller (only “P” devices)
22	Locking system (only “P” devices)

Connections

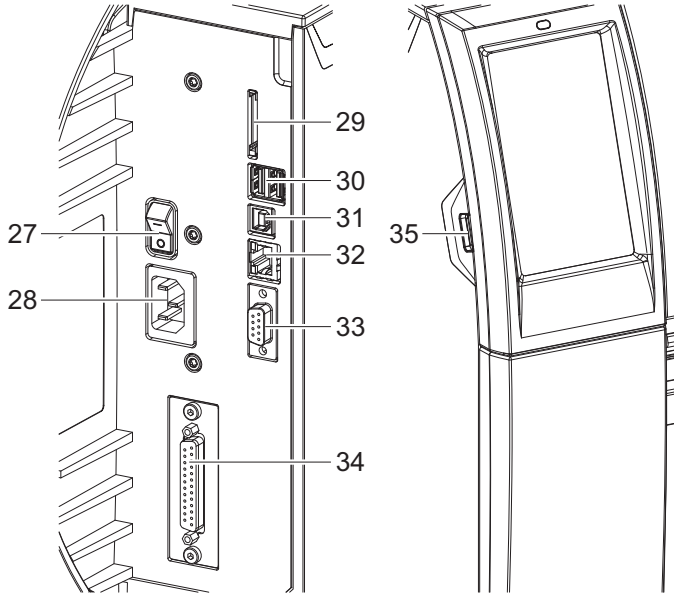


Figure 3: Connections

#	Description
27	Power switch
28	Power connection jack
29	Slot for SD card
30	2 USB host ports for keyboard, scanner, USB memory stick, Bluetooth adapter or service key
31	USB full-speed device port
32	Ethernet 10/100 Base-T
33	Serial RS-232 port
34	I/O interface (Option)
35	USB host port for keyboard, scanner, USB memory stick, Bluetooth adapter or service key

Unpacking and Setting-up the Printer

1. Lift the label printer out of the box.
2. Check label printer for damage which may have occurred during transport.
3. Set up the printer on a level surface.
4. Remove foam transportation safeguards near the printhead.
5. Check delivery for completeness.
   - Label printer
   - Power cable
   - USB cable
   - WLAN stick
   - Installation software
   - Documentation

Installing the WLAN stick

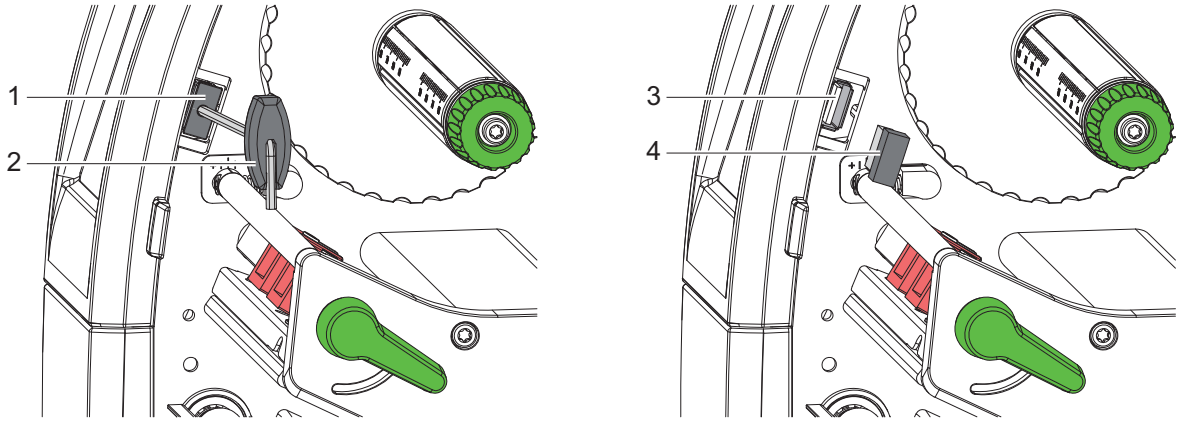


Figure 4: Installing the WLAN stick

1. Remove the cover (1) with the Allen key (2).
2. Connect the WLAN stick (4) to the USB interface (3) in the control panel.

Connecting the Device

The standard available interfaces and connectors are shown in Figure 3.

Connecting to the Power Supply

The printer is equipped with a wide area power unit. The device can be operated with a supply voltage of 230 V~/50 Hz or 115 V~/60 Hz without adjustment.

1 Check that the device is switched off.

2 Plug the power cable into the power connection socket (28).

3 Plug the power cable into a grounded socket.

Connecting to a Computer or Computer Network

Attention: *Inadequate or no grounding can cause malfunctions during operations. Ensure that all computers and cables connected to the label printer are grounded.*

1 Connect the label printer to a computer or network by a suitable cable.

For details of the configuration of the individual interfaces, refer to *"Connecting Label Printer to Computer" on page 69*.

Switching on the Device

When all connections have been made:

1 Switch the printer on at the power switch (27).

The printer performs a system test, and then shows the system status Ready in the display (10).

3 Touchscreen Display

The user can control the operation of the printer with the control panel (*"Configuration" on page 79*), for example:

- Issuing, interrupting, continuing and canceling print jobs
- Setting printing parameters, e.g. heat level of the printhead, print speed, interface configuration, language and time of day
- Control stand-alone operation with a memory module
- Update the firmware

Many functions and settings can also be controlled by software applications or by direct programming with a computer using the printer's own commands.

Settings made on the touchscreen display make the basic settings of the label printer.

Note: *It is advantageous, whenever possible, to make adaptations to various print jobs in the software.*

Start Screen

Table 1: Start screen

	After switching on

Table 1: Start screen (Continued)

	During printing
	In pause state
	After print job

The touchscreen display is operated directly by touch:

- To open a menu or select a menu item lightly touch the corresponding symbol.
- To scroll in lists slide finger up or down on the display.

Table 2: Symbols on the start screen

	Open the menu		Repeat the last printed label
	Interrupt the print job		Cancel all print jobs
	Continue the print job		Feed a blank label

Note: *Inactive symbols are shaded.*

With special software or hardware configurations additional symbols appear on the start screen:

Table 3: Optional symbols on the start screen

	Printing on demand without print job
	Printing on demand within print job

Table 3: Optional symbols on the start screen (Continued)

	Direct cut with CU, PCU or ST cutter installed

Table 4: Optional symbols on the start screen

	Release printing of a single label within a print job including peeling-off, cutting...
	Release a direct cut without media feed

In the headline several types of information are displayed as widgets depending on the configuration:

Figure 5: Widgets in the start screen

Table 5: Widgets in the start screen

	Displays the current data transfer in the form of a falling drop.
	The Save data stream function is active. All received data are stored in a .lbl file. *See "Save Data Stream" on page 115.*

Table 5: Widgets in the start screen (Continued)

	Warning ribbon end. The remaining diameter of the ribbon supply roll undershoots the set value.
	SD card installed
	USB memory installed
	Gray: Bluetooth adapter installed White: Bluetooth connection active
	WiFi connection active. The WiFi strength is displayed by the number of white arcs.
	Ethernet connection active
	USB connection active
	Clock time

Structure of the Menu

The menu contains setting options on several levels for configuring the label printer. In addition, the menu features test and diagnostic functions for supporting the configuration or checking the function of the label printer.

Table 6: Structure of the menu

1st Selection Level	2nd Selection Level	3rd Selection Level
	Info	
	Storage	
	Setup	 Printing

Table 6: Structure of the menu (Continued)

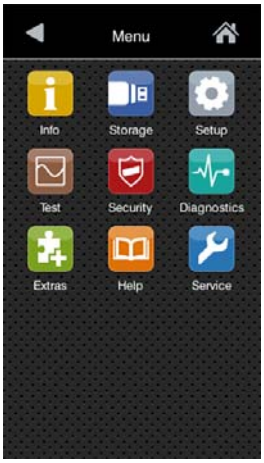
1st Selection Level	2nd Selection Level	3rd Selection Level	
	Labels		
	Ribbon		
	Tearing-off		
	Cutting		
	Peeling-off		
	Labeling		
	Interfaces		Ethernet
			WLAN
			Network services
			RS-232
	Errors		
	Region		
	Time		
	Display		
	Interpreter		
	ZPL		

Table 6: Structure of the menu (Continued)

1st Selection Level	2nd Selection Level	3rd Selection Level
	Test	
	Security	
	Diagnostics	
	Extras	
	Help	
	Service	

Navigation in the Menu

Table 7: Menu levels

	Start level
	Selection level
	Parameter/function level

1) To open the menu select the following icon on the start screen.

2) Select an option in the selection level.

   Several options have substructures again with selection levels.

   To return from the current level to the upper one select the back arrow icon. To leave the menu select the home icon.

3) Continue the selection until the parameter/function level is reached.

4) Start a function. The printer will carry out the function possibly after a displaying dialogue.

   - or -

   Select a parameter to set. The setup possibilities depend on the parameter type.

Table 8: Samples for parameter setting

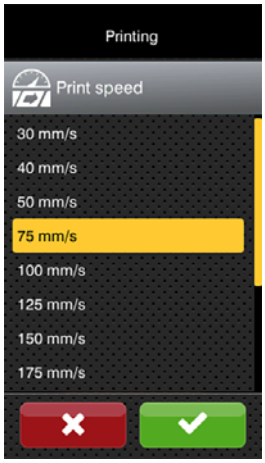
	Logical parameters
	Selection parameters

Table 8: Samples for parameter setting (Continued)

	Numerical parameters
	Date/time

Table 9: Buttons for parameter setting

	Scroll bar for rough value setting
	Decreasing the value step-by-step
	Increasing the value step-by-step
	Return without saving the setting
	Return with saving the setting
	Parameter is disabled, touching enables the parameter
	Parameter is enabled, touching disables the parameter

Service Key

A service key is required for accessing special service functions not accessible to the operator. This key switches the printer to service mode and enables:

- Access to additional configuration parameters
- Resetting of the service counter
- Additional information in the status print and in the device list
- Changing of the device name
- Access to PIN-protected configuration parameters and functions without entering the PIN
- Access to configuration parameters for optional assemblies, even if they are not currently installed

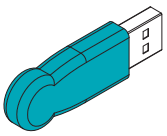


Figure 6: Service key

Attention: *Incorrect settings and data loss via unauthorized access. Access protection is deactivated when the service key is inserted. Operation of the printer by unauthorized persons can lead to incorrect settings and data loss in this case.*

- Provide the service key to authorized persons only.
- Remove service key after service work and store it in a secure location.

Insert service key into a USB host interface on the printer. The service key also can be inserted while the device is switched on.

In this document, parameters and functions which are only accessible when the service key is inserted are indicated using the following note:

Note: *Access only with service key inserted!*

4 Loading Media

Note: *For adjustments and simple installation work, use the accompanying Allen key located in the top section of the print unit. No other tools are required for the work described here.*

Loading Roll Media

Positioning the Media Roll on the Roll Retainer

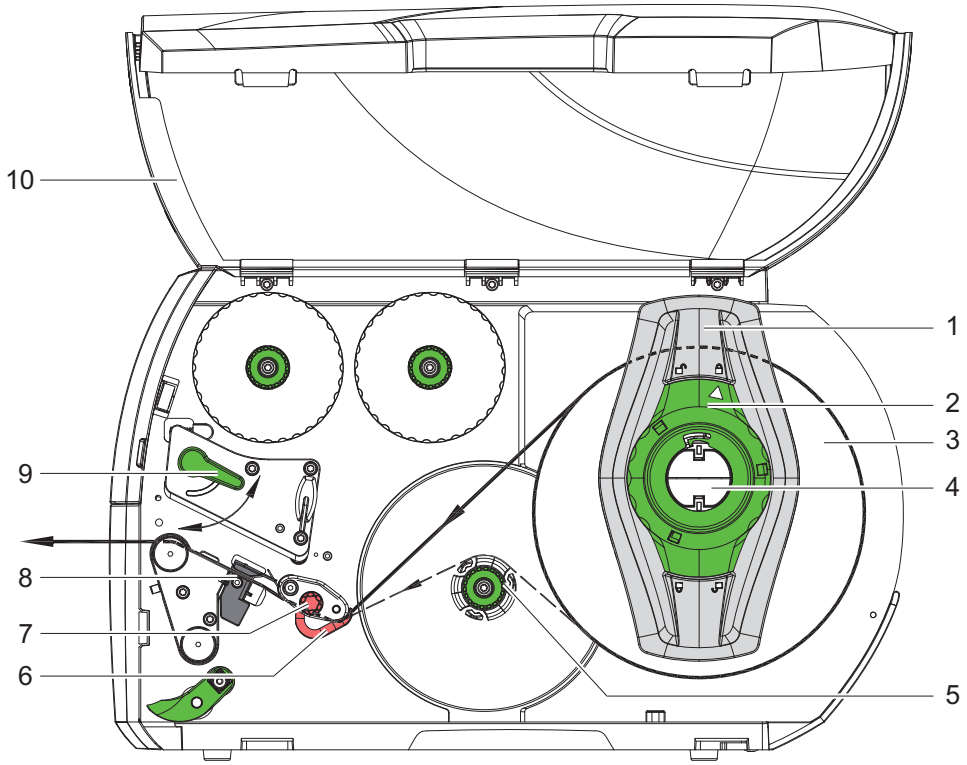


Figure 7: Loading roll media

1 Open cover (10).

2 Turn ring (2) at the margin stop (1) counterclockwise, so that the arrow points to the unlock symbol, and thus release the margin stop.

3 Remove the margin stop (1) from the roll retainer (4).

4 Load label roll (3) on the roll retainer in such a way that the labels can be inserted into the printhead in the right position. The printing side of the labels must be visible from above.

- QL-30, QL-60, QL-30P, QL-60P - Re-mount the margin stop (1) onto the roll retainer (4). Push the margin stop (1) to the roll until the roll touches the chassis and the roll retainer and a clear resistance is encountered.
- QL-30M, QL-60M, QL-30MP, QL-60MP - Re-mount the margin stop (1) onto the roll retainer (4). Push the margin stop (1) to the roll until the roll touches both roll retainers and a clear resistance is encountered.

5 Turn ring (2) clockwise, so that the arrow (10) points to the lock symbol, and thus fix the margin stop (1) on the roll retainer (4).

6 Supply longer label strips:

- For Peel-Off or Rewind mode: approx. 60 cm
- For Tear-Off mode: approx. 40 cm

Inserting the Media Strip into the Printhead

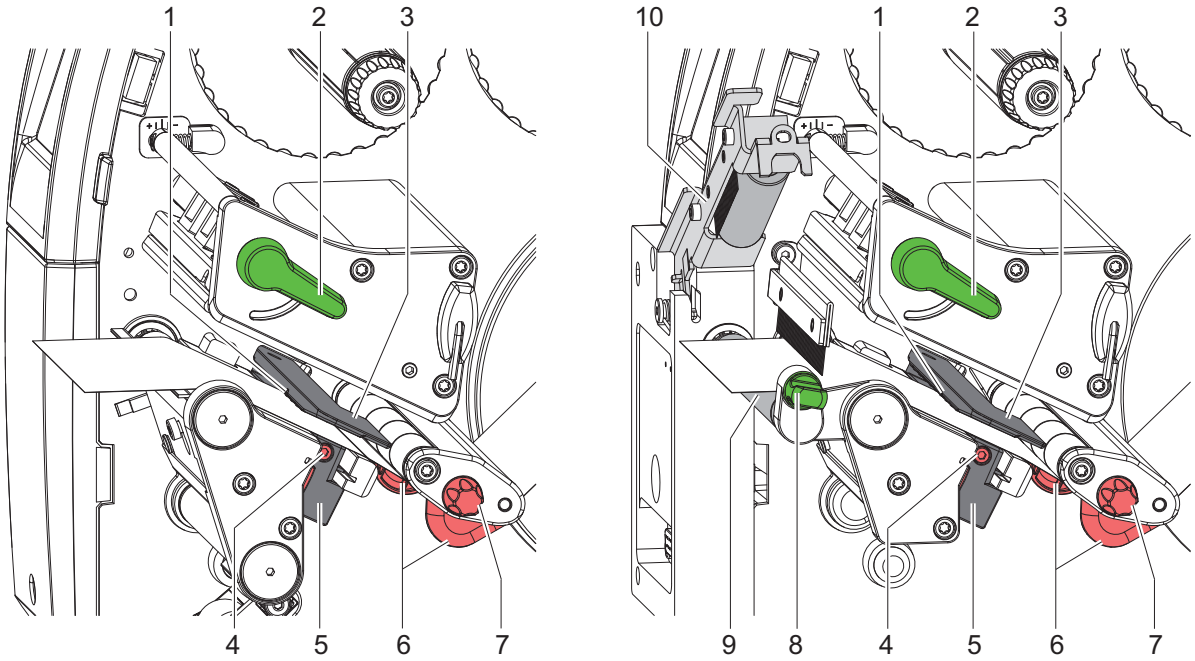


Figure 8: Inserting the media strip into the printhead

1 Turn lever (2) counterclockwise to lift the printhead.

2 Adjust the guide(s) (6) with the knob (7) in such a way that:

- QL-30, QL-60, QL-30P, QL-60P - the media can pass between the guide and the chassis.
- QL-30M, QL-60M, QL-30MP, QL-60MP - the media can pass between the two guides.

3 Guide label strip over the internal rewinder to the print unit.

4 Guide label strip through the label sensor (5) in such a way that it exits the print unit between the printhead and the print roller.

5 Move guide(s) (6) against the edge(s) of the material by turning the knob (7).

Setting the Label Sensor

The label sensor can be shifted perpendicular to the direction of media flow for adaptation to the media. The sensor unit (1) of the label sensor is visible from the front through the print unit and is marked with an indentation in the label sensor retainer. When the printer is switched on, a yellow LED illuminates the sensor position.

- Loosen screw (4).
- Position label sensor with tab (5) in such a way that the sensor (1) can detect the label gap or a reflective or perforation mark.

- or, if the labels deviate from a rectangular shape, -

- Align label sensor using the tab (5) with the front edge of the label in the direction of media flow.
- Tighten screw (4).

For use in tear-off mode only:

- Turn lever (2) clockwise to lock the printhead.

  The label roll is loaded for use in tear-off mode.

Winding up the Media Strip in Rewind Mode

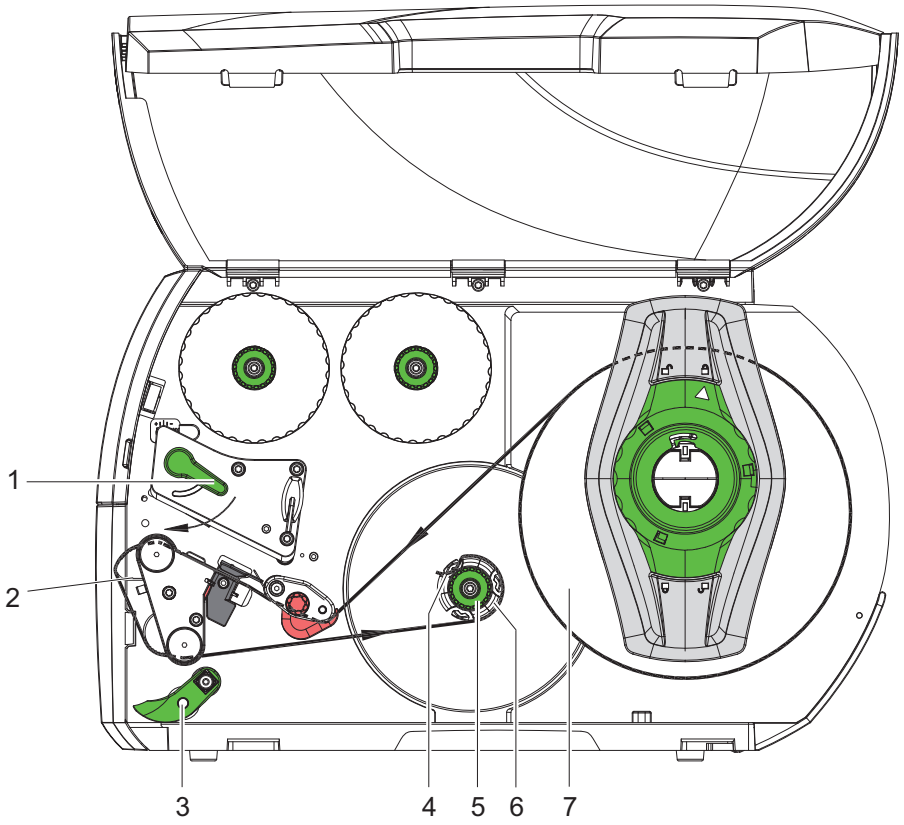


Figure 9: Guiding the media strip in rewind mode

In rewind mode, the labels are wound up internally after printing for later use.

1 Install rewind guide plate. *See "Removing and Installing the Rewind Guide Plate, Dispense Plate or Tear-off Plate" on page 46.*

2 Lift the pinch roller (3) off the rewind assist roller.

3 Guide label strip around the rewind guide plate (2) to the internal rewinder (6).

4 Hold rewinder (6) firmly and turn knob (5) clockwise until it stops.

5 Push label strip under a bracket (4) of the rewinder and turn knob (5) counterclockwise until it stops. The rewinder is fully spread, thus gripping the label strip firmly.

6 Turn rewinder (6) counterclockwise to tighten the label strip.

7 Turn lever (1) clockwise to lock the printhead.

The label roll is loaded for use in rewind mode.

Removing the Wound Roll

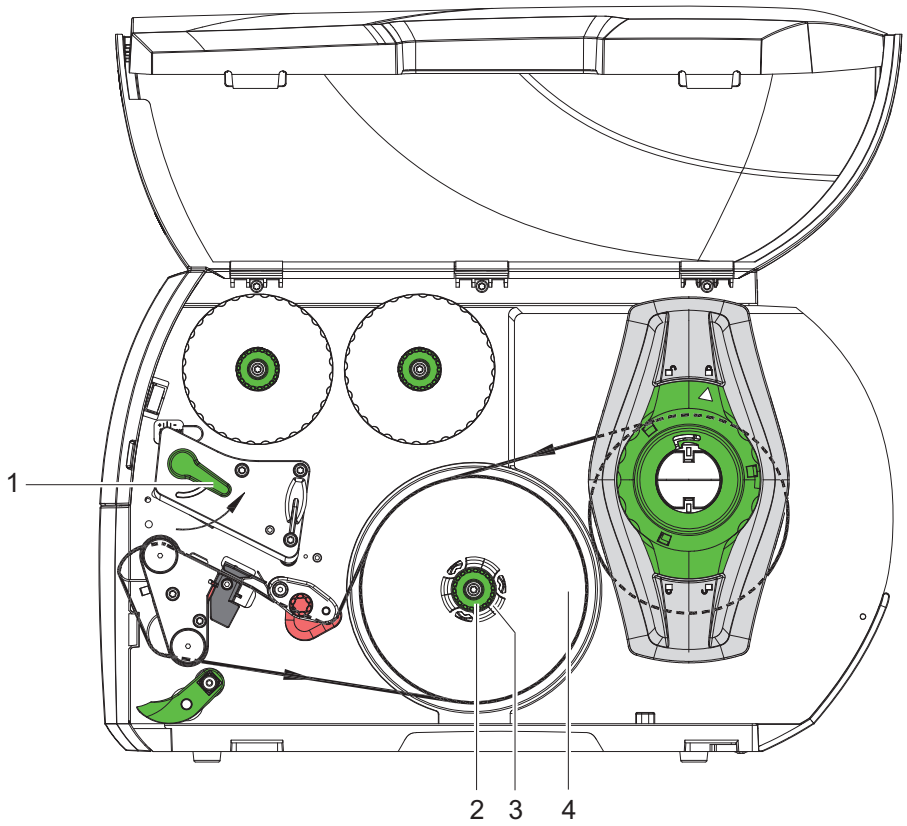


Figure 10: Removing the wound roll

1 Turn lever (1) counterclockwise to lift the printhead.

2 Cut label strip and wind it fully around the rewinder (3).

3 Hold rewinder (3) firmly and turn knob (2) clockwise.

The rewinder spindle relaxes and the wound roll (4) is released.

4 Remove wound (4) roll from rewinder (3).

Winding up the Liner in Peel-Off mode

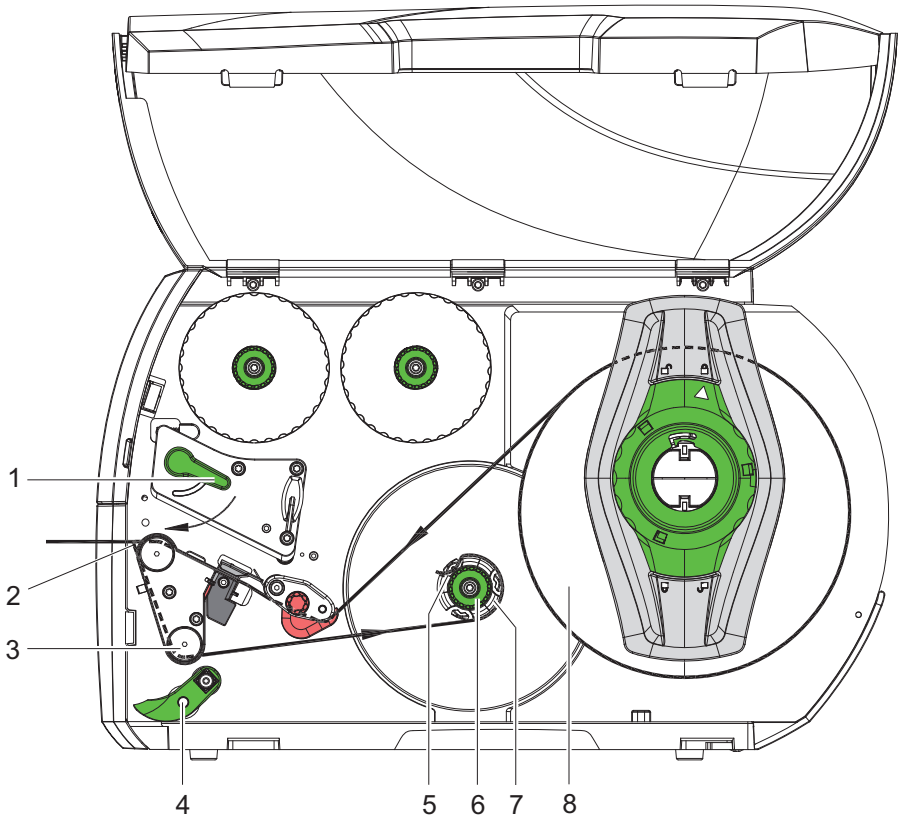


Figure 11: Guidance of the material in peel-off mode

In Peel-Off mode, the labels are removed after printing, and only the liner is wound up internally.

1 Lift the pinch roller (4) off the rewind assist roller (3).

2 Remove labels from the first 100 mm of the liner.

3 Guide liner to the rewinder (7) around the dispense plate (2) and the rewind assist roller (3).

4 Hold rewinder (7) firmly and turn knob (6) clockwise until it stops.

5 Push liner under a bracket (5) of the rewinder (7) and align the outer edge of the strip to the media roll (8).

6 Turn knob (6) counterclockwise until it stops.

The rewinder is fully spread, thus gripping the liner firmly.

7 Turn rewinder (7) counterclockwise to tighten the liner.

8 Position the pinch roller (4) centrally to the liner.

9 Swing the pinch roller (4) against the rewind assist roller (3).

10 Turn lever (1) clockwise to lock the printhead.

The label roll is loaded for use in peel-off mode.

Loading Fanfold Media

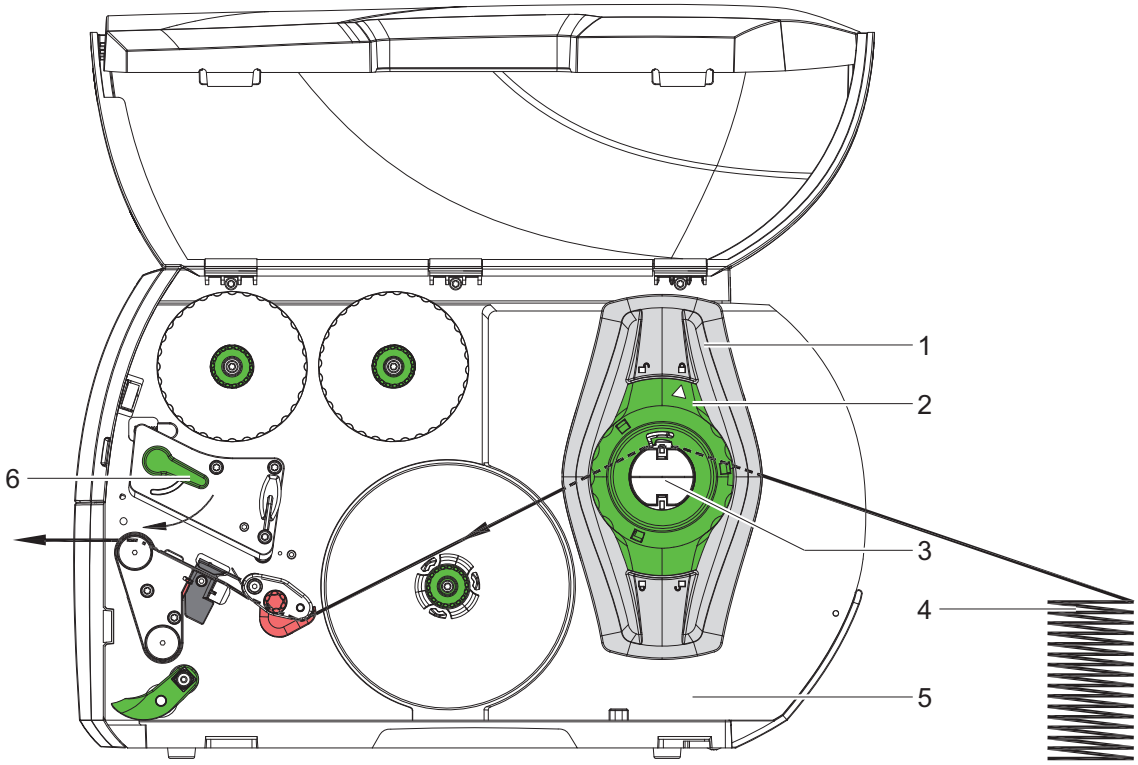


Figure 12: Feed path of fanfold media

1 Turn ring (2) counterclockwise, so that the arrow points to the unlock symbol, and thus release the margin stop (1).

2 Move the margin stop(s) (1) in such a position that:

- QL-30, QL-60, QL-30P, QL-60P - the media can pass between the margin stop and the chassis.
- QL-30M, QL-60M, QL-30MP, QL-60MP - the media can pass between the two margin stops.

3 Position media stack (4) behind the printer. Ensure that labels on the strip are visible from above.

4 Guide the media strip over the roll retainer (3) to the print unit.

5 Move the margin stop (1) against the media strip until chassis (5) and margin stop (1) or both margin stops touch the media strip without clamping or bending it.

6 Turn ring (2) clockwise, so that the arrow points to the lock symbol, and thus fix the margin stop (1) on the roll retainer (3).

7 Insert media strip into printhead. *See "Inserting the Media Strip into the Printhead" on page 38.*

8 Set the label sensor. *See "Setting the Label Sensor" on page 39.*

9 Set the head locking system. *See "Setting the Head Locking System" on page 44.*

10 Turn lever (6) clockwise to lock the printhead.

Setting the Head Locking System

QL-30, QL-60, QL-30P, QL-60P

The printhead is pushed on via two plungers. The location of the outer plunger must be set to the width of the label medium used so as to:

- achieve even print quality across the entire label width
- prevent wrinkles in the feed path of the transfer ribbon
- prevent premature wearing of the print roller and printhead.

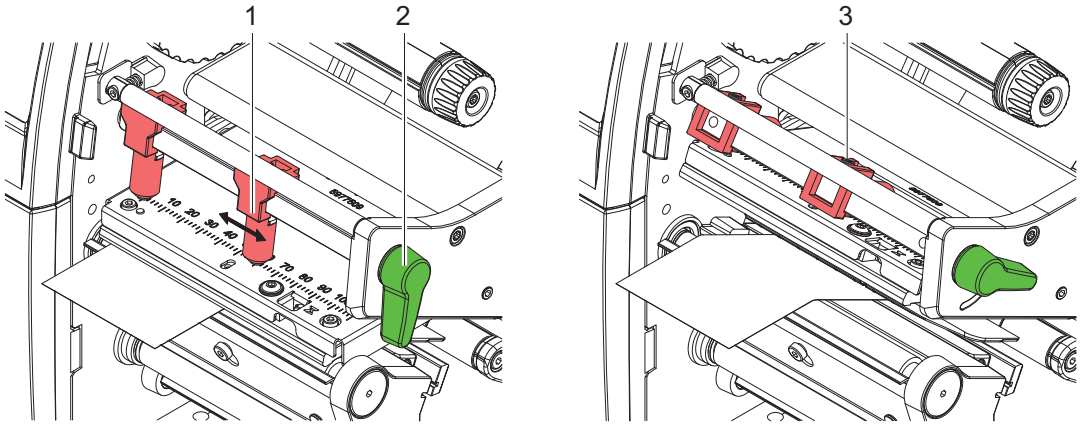


Figure 13: Setting the head locking system

- Loosen threaded pin (3) at outer plunger (1) with Allen key.
- Turn lever (2) clockwise to lock the printhead.
- Position outer plunger (1) over the outer media edge.
- Tighten threaded pin (3).

QL-30M, QL-60M, QL-30MP, QL-60MP

The printhead is pushed on via two plungers (1). In the basic setting the plungers are set in the middle of the printhead retainer. This setting can be used for the most applications.

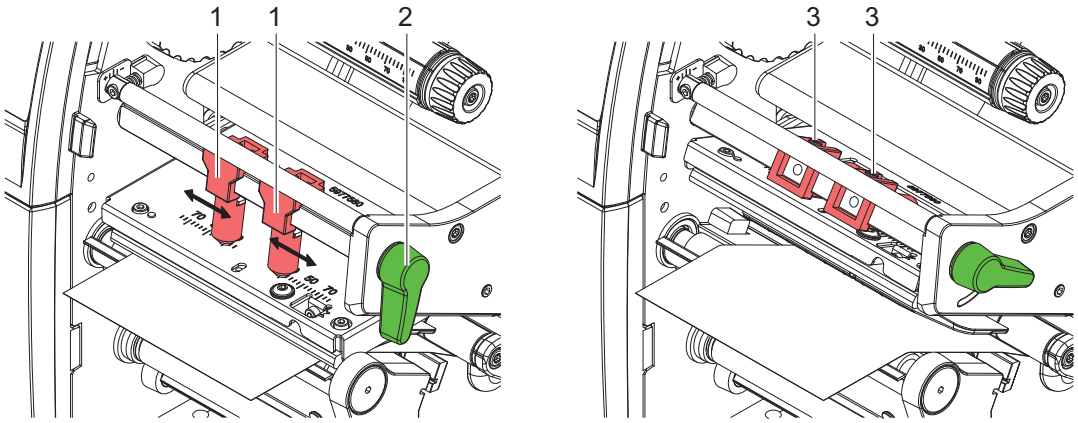


Figure 14: Setting the head locking system

If the print density decreases in the outer areas when using very large media, the plungers can be displaced:

- Loosen threaded pins (3) at the plungers (1) with Allen key.
- Turn lever (2) clockwise to lock the printhead.
- Displace plungers to the scale value 70.
- Tighten the threaded pins (3).

Removing and Installing the Rewind Guide Plate, Dispense Plate or Tear-off Plate

To convert the printer for use in another operating mode, a rewind guide plate (2a), a dispense plate (2b) or a tear-off plate (2c) may need to be installed.

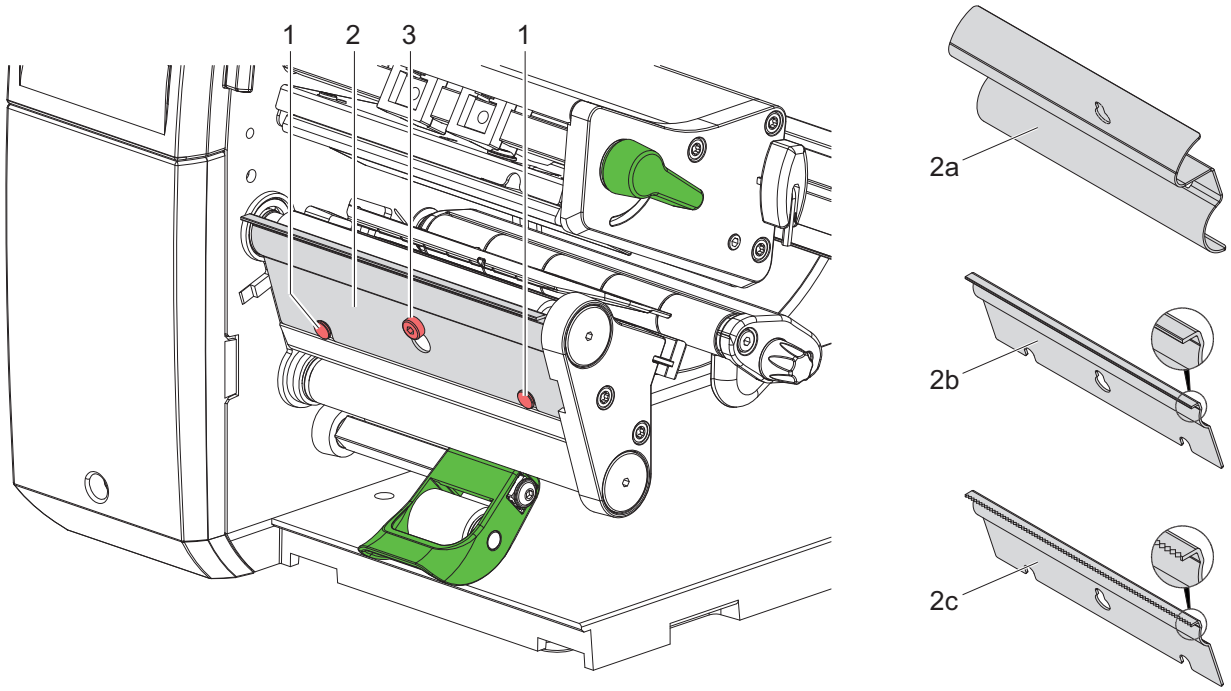


Figure 15: Removing and installing the rewind guide plate, dispense plate or tear-off plate

Removing a plate

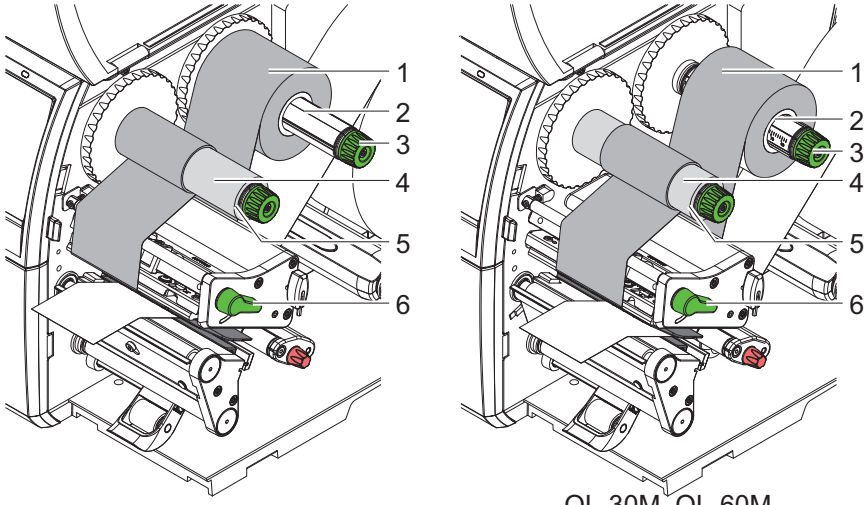
- Loosen screw (3) several turns.
- Slide plate (2) upwards and remove it.

Installing a plate

- Place plate (2) onto the screw (3) and slide it downwards behind the pins (1).
- Tighten screw (3).

Loading Transfer Ribbon

Note: *With direct thermal printing, do not load a transfer ribbon; if one has already been loaded, remove it.*



QL-30, QL-60, QL-30P, QL-60P

QL-30M, QL-60M, QL-30MP, QL-60MP

Figure 16: Loading transfer ribbon

1 Clean printhead before loading the transfer ribbon. *See "Cleaning the Printhead" on page 51.*

2 Turn lever (6) counterclockwise to lift the printhead.

3 Slide transfer ribbon roll (1) onto the ribbon supply hub (2) so that the color coating of the ribbon faces downward when being unwound.

4 Position the roll.

- QL-30, QL-60, QL-30P, QL-60P - Slide the roll (3) until it stops.
- QL-30M, QL-60M, QL-30MP, QL-60MP - Position the roll in such a way that both ends of the roll show identical scale values.

5 Hold transfer ribbon roll (1) firmly and turn knob on ribbon supply hub (3) counterclockwise until the transfer ribbon roll is secured.

6 Slide suitable transfer ribbon core (4) onto the transfer ribbon take-up hub (5) and secure it in the same way.

7 Guide transfer ribbon through the print unit as shown in Figure 17.

8 Secure starting end of transfer ribbon to the transfer ribbon core (4) with adhesive tape. Ensure counterclockwise rotation direction of the transfer ribbon take-up hub here.

9 Turn transfer ribbon take-up hub (5) counterclockwise to smooth out the feed path of the transfer ribbon.

10 Turn lever (6) clockwise to lock the printhead.

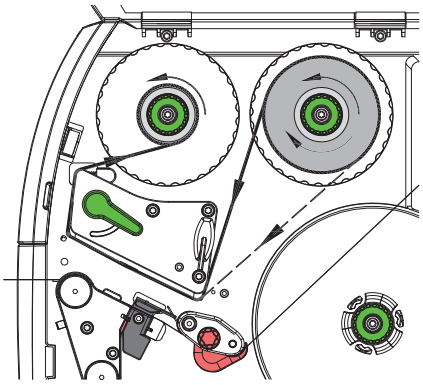


Figure 17: Transfer ribbon feed path

Setting the Feed Path of the Transfer Ribbon

Transfer ribbon wrinkling can lead to print image errors. The transfer ribbon deflection (3) can be adjusted so as to prevent wrinkles.

Note: *A maladjustment of the head locking system may also cause ribbon wrinkling.* *See "Setting the Head Locking System" on page 44.*

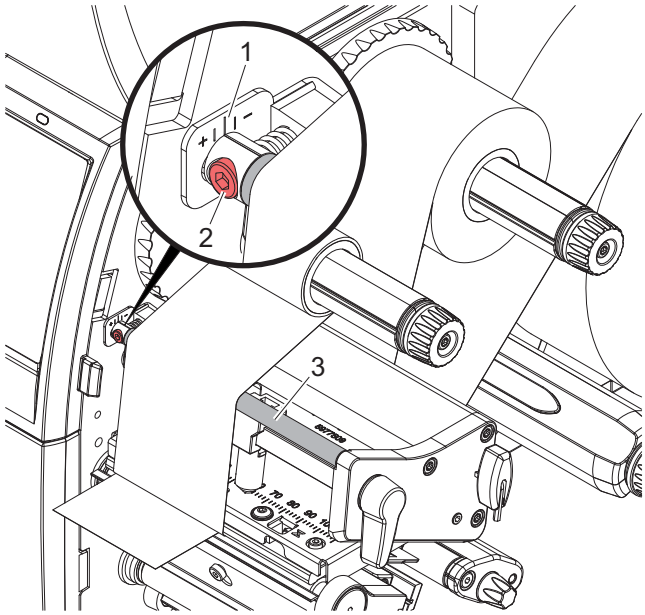


Figure 18: Setting the feed path of the transfer ribbon

Note: *The adjustment is best carried out during printing.*

- Read current setting on the scale (1) and record if necessary.
- Turn screw (2) with Allen key and observe the behavior of the ribbon.

  In the + direction, the inner edge of the ribbon is tightened, and the outer edge is tightened in the - direction.

5 Printing Operation

Attention: *Printhead damage can be caused by improper handling!*

- Do not touch the underside of the printhead with fingers or sharp objects.
- Ensure that the labels are clean.
- Ensure that the label surfaces are smooth. Rough labels act like emery paper and reduce the service life of the printhead.
- Print with the lowest possible printhead temperature.

The printer is ready for operation when all connections have been made and labels and, if applicable, the transfer ribbon have been loaded.

Synchronization of the Media Feed

After the label stock has been inserted, for peel-off or cutting mode a synchronization of the media feed is required. That way the first label, which is detected by the label sensor, will be transported to the print position and all labels in front will be fed out of the printer. So the synchronization avoids, that blank labels are peeled-off together with the first printed label or that the first cut label would be too long. Both effects can cause useless first labels.

- Select to start the synchronization.

- Remove the blank labels peeled-off or cut during the synchronization.

Note: *Synchronization is not necessary if the printhead was not opened between different print jobs, even if the printer was switched off.*

Tear-off Mode

In tear-off mode, labels or continuous media are printed. After printing, the label strip can be separated by hand. The label printer must be equipped with a tear-off plate for this. *See "Removing and Installing the Rewind Guide Plate, Dispense Plate or Tear-off Plate" on page 46.*

Peel-off Mode

In Peel-off mode, the labels are automatically peeled off the liner after printing and presented for removal. The liner is wound up by the internal rewinder. This mode is available only on the peel-off printer versions. The printer must be equipped with a dispense plate.

Note: *Peel-off mode must be activated in the software.*

- In the most simple case the peel-off mode can be controlled without optional device by the touchscreen display:

  Start a print job in peel-off mode.

  Start every peel-off cycle by pressing on the touchscreen display.

- When using the optional PS800 or PS900 the label in the peel position will be detected by an optical sensor. After the label has been removed the next label will be printed and fed to the peel position.
- With the applicators S1000 and S3200 or the dispense module S5104 the labels can be applied to a product directly after printing.

Internal Rewinding

The labels are wound up internally after printing with the carrier medium for later use. This mode is available only on the peel-off printer versions.

The label printer must be equipped with a rewind guide plate for this. *See "Removing and Installing the Rewind Guide Plate, Dispense Plate or Tear-off Plate" on page 46.*

6 Cleaning

Cleaning Information

Danger: *Risk of death via electric shock! Disconnect the printer from the power supply before performing any maintenance work.*

The label printer requires very little maintenance.

It is important to clean the thermal printhead regularly. This guarantees a consistently good printed image and plays a major part in preventing premature wear of the printhead.

Otherwise, the maintenance is limited to monthly cleaning of the device.

Attention: *The printer can be damaged by aggressive cleansers. Do not use abrasive cleaners or solvents for cleaning the external surfaces or modules.*

- Remove dust and paper fibers from the print area with a soft brush or vacuum cleaner.
- The cover of the printer can be cleaned with a standard cleanser.

Cleaning the Print Roller

Accumulations of dirt on the print roller may impair the media transport and the print quality.

- Lift the printhead.
- Remove labels and transfer ribbon from the printer.
- Remove deposits with roller cleaner and a soft cloth.
- If the roller appears damaged, replace it. Refer to the Service Guide.

Cleaning the Printhead

Cleaning Intervals	
Direct thermal printing	Every media roll change
Thermal transfer printing	Every ribbon roll change

Substances may accumulate on the printhead during printing and adversely affect printing, e.g. differences in contrast or vertical stripes.

Attention: *Printhead can be damaged! Do not use sharp or hard objects to clean the printhead. Do not touch protective glass layer of the printhead.*

Attention: *Risk of injury from the hot printhead line. Ensure that the printhead has cooled down before starting cleaning.*

- Lift the printhead.
- Remove labels and transfer ribbon from the printer.
- Clean printhead surface with special cleaning pen or a cotton swab dipped in pure alcohol.
- Allow printhead to dry for 2–3 minutes before commissioning the printer.

Cleaning the Label Sensor

Attention: *Label sensor can be damaged! Do not use sharp or hard objects or solvents to clean the label sensor.*

The label sensor can become dirtied with paper dust. This can adversely affect label detection.

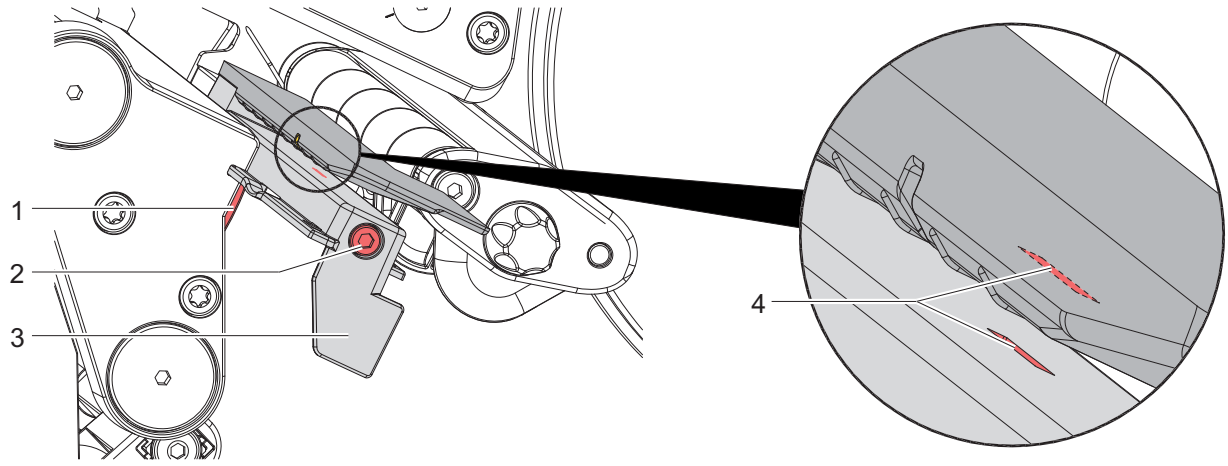


Figure 19: Cleaning the label sensor

1 Remove labels and transfer ribbon from the printer.

2 Loosen screw (2).

3 Press the button (1) and slowly pull label sensor outward via the tab (3). Ensure that the label sensor cable is not tensioned by this.

4 Clean label sensor slots (4) with brush or cotton swab soaked in pure alcohol.

5 Push label sensor back via tab (3) and set it. *See "Setting the Label Sensor" on page 39.*

6 Reload labels and transfer ribbon.

7 Fault Correction

Error Display

The appearance of an error will be shown on the display:

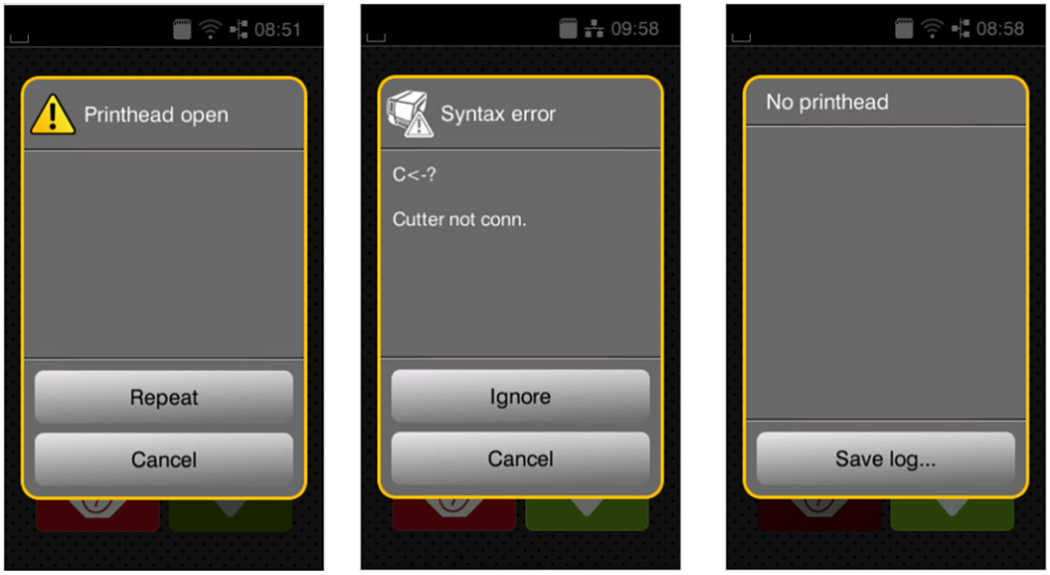


Figure 20: Error display

The error treatment is pending on the error type. *See "Error Messages and Fault Correction" on page 54.*

The display offers the following possibilities to continue after an error occurred:

Table 10: Button in the error display

Repeat	The print job will be continued after clearing the error cause.
Cancel	The print job will be cancelled.
Feed	The media feed will be synchronized. Following the print job can be continued.
Ignore	The error message will be ignored. The print job will be continued possibly with limited performance.
Save log	The error does not allow print operation. For detailed analysis several system files can be saved on an external memory.

Error Messages and Fault Correction

Table 11: Error Messages and Fault Correction

Error message	Cause	Remedy
Barcode error	Invalid barcode content, e.g. alphanumeric characters in a numerical barcode	Correct the barcode content.
Barcode too big	The barcode is too big for the allocated area of the label	Reduce the size of the barcode or move it.
Buffer overflow	The input buffer memory is full and the computer is still transmitting data.	Use data transmission via protocol (preferably RTS/CTS).
Cutter blocked	Cutter cannot return into its home position and stays in an undefined position	Switch off the printer. Remove material. Switch on the printer. Restart print job. Change material
	No cutter function	Switch the printer off and then on. If error recurs call service.
Cutter jammed	The cutter is unable to cut the labels but is able to return into its home position	Press Cancel Change material.
Device not conn.	Programming addresses a non-existent device	Either connect this device or correct the programming.
File not found	Requested file is not on the card	Check the contents of the card.
Font not found	Error with the selected download font	Cancel current print job, change font.
Memory overflow	Current print job contains too much information, e.g. selected font, large graphics	Cancel current print job. Reduce amount of data to be printed.
Name exists	Duplicate usage of field name in the direct programming	Correct programming

Table 11: Error Messages and Fault Correction (Continued)

Error message	Cause	Remedy
No label found	There are labels missing on the label material	Press Repeat repeatedly until printer recognizes the next label on the material.
	The label format as set in the software does not correspond with the real label format	Cancel current print job. Change the label format set in the software. Restart print job.
	Printer is loaded with continuous paper, but the software is set on labels	Cancel current print job. Change the label format set in the software. Restart the print job.
No label size	The size of the label is not defined in the programming.	Check programming.
Out of paper	Out of label roll	Load labels.
	Error in the paper feed	Check paper feed.
Out of ribbon	Out of transfer ribbon	Insert new transfer ribbon.
	Transfer ribbon melted during printing	Cancel current print job. Change the heat level via software. Clean the printhead. *See "Cleaning the Printhead" on page 51.* Load transfer ribbon. Restart print job.
	The printer is loaded with thermal labels, but the software is set to transfer printing	Cancel current print job. Set software to direct thermal printing. Restart print job.
Pinch roller open	Pinch roller at the rewind guide roller is not locked in peel-off mode	Swing the pinch roller against the rewind assist roller.
Printhead open	Printhead not locked	Lock printhead.

Table 11: Error Messages and Fault Correction (Continued)

Error message	Cause	Remedy
Printhead too hot	Printhead is overheated	After pausing, the print job will be continued automatically. If the fault recurs repeatedly, reduce the heat level or the print speed via software.
Read error	Read error when reading from the memory card	Check data of the card. Backup data, reformat card.
Remove ribbon	Transfer ribbon is loaded although the printer is set to direct thermal printing	For direct thermal printing remove ribbon
		For thermal transfer printing set the printer in the configuration or in the software to transfer printing
Syntax error	Printer has received an unknown or invalid command from the computer.	Press Ignore to skip the command or press Cancel to cancel the print job.
Unknown card	Card not formatted, Type of card not supported	Format card, use different type of card.
Voltage error	Hardware error	Switch the printer off and then on. If error recurs call service. It is shown which voltage has failed. Please note.
Write error	Hardware error	Repeat the write process, reformat card.

Problem Solution

Table 12: Problem solution

Problem	Cause	Remedy
Transfer ribbon creases	Transfer ribbon deflection not adjusted	Adjust the transfer ribbon deflection. *See "Setting the Feed Path of the Transfer Ribbon" on page 48.*
	Head locking system not adjusted	Adjust the head locking system. *See "Setting the Head Locking System" on page 44.*
	Transfer ribbon too wide	Use a transfer ribbon slightly wider than the width of label.
Print image has smears or voids	Printhead is dirty	Clean the printhead. *See "Cleaning the Printhead" on page 51.*
	Temperature too high	Decrease temperature via software.
	Unsuitable combination of labels and transfer ribbon	Use different type of ribbon.
Printer does not stop after transfer ribbon runs out	Thermal printing is chosen in the software	Change to thermal transfer printing.
Printer prints a sequence of characters instead of the label format	Printer is in ASCII dump mode	Cancel the ASCII dump mode.
Printer transports label media, but transfer ribbon does not move	Transfer ribbon incorrectly inserted.	Check and, if necessary, correct the transfer ribbon web and the orientation of the label side.
	Unsuitable combination of labels and transfer ribbon	Use different type of ribbon.
Printer only prints each second label	Setting of the size in the software is too large.	Change the size in the software.
Vertical white lines in the print image	Printhead is dirty	Clean the printhead. *See "Cleaning the Printhead" on page 51.*
	Printhead is defective (failure of heat elements)	Change the printhead. See Service Guide.

Table 12: Problem solution (Continued)

Problem	Cause	Remedy
Horizontal white lines in the print image	Printer is used with the backfeed > smart in the cut or peel-off mode	Set the backfeed > always in the setup. *See "Printing" on page 79.*
Print image is irregular, one side is lighter	Printhead is dirty	Clean the printhead. *See "Cleaning the Printhead" on page 51.*
	Head locking system not adjusted	Adjust the head locking system. *See "Setting the Head Locking System" on page 44.*

8 Media

Media Dimensions

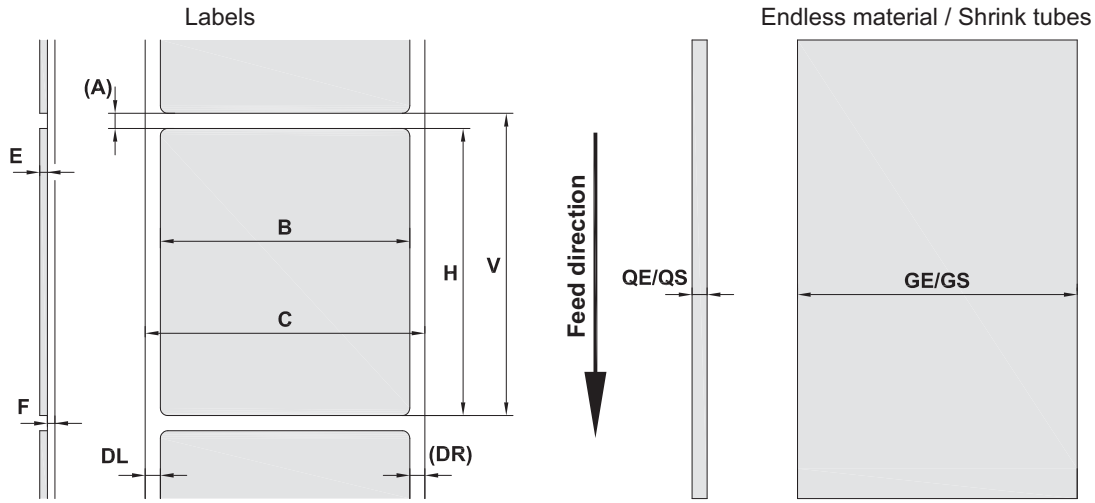


Figure 21: Media dimensions

Table 13: Media dimensions

Dim.	Designation	Dim. in mm	
		QL-30, QL-60, QL-30P, QL-60P	QL-30M, QL-60M, QL-30MP, QL-60MP
B	Label width	20 - 116	4 -110
H	Label height in peel-off mode	6 - 2000 12 - 200	4 - 2000 12 - 200
-	Tear-off length	> 30	
-	Cut length with cutter with perforation cutter	 > 5 > 5	
-	Perforation length	> 2	
A	Label distance	> 2	
C	Width of liner	24 - 120	9 - 114

Table 13: Media dimensions (Continued)

Dim.	Designation	Dim. in mm	
		QL-30, QL-60, QL-30P, QL-60P	QL-30M, QL-60M, QL-30MP, QL-60MP
GE	Width of endless material	24 - 120	4 - 114
GS	Width of shrink tubes	-	4 - 85
DL	Left margin	≥ 0	
DR	Right margin	≥ 0	
E	Label thickness	0.03 - 0.60	
F	Liner thickness	0.03 - 0.13	
QE	Thickness of endless material	0.05 - 0.50	
QS	Thickness of shrink tubes	-	≤ 1.1
V	Label feed	> 8	> 6

- Small label sizes, thin materials or strong glue can lead to limitations. Critical applications need to be tested and cleared.
- Note the bending stiffness. Material must be flexible to follow the radius of the print roller.

Device Dimensions

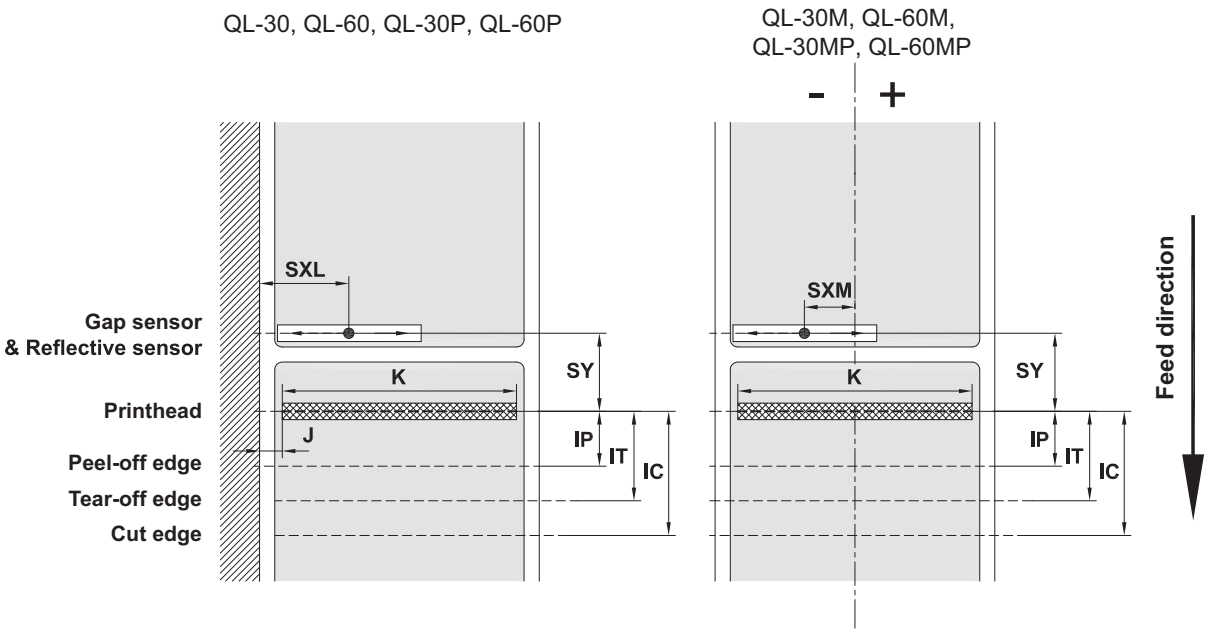


Figure 22: Device dimensions

Table 14: Device dimensions

Dim.	Designation	Dim. in mm	
		QL-30/60 QL-30P/60 P	QL-30M/60 M QL-30MP/60MP
IP	Distance printhead - peel-off edge	13.5	
IT	Distance printhead - tear-off edge	13.5	
IC	Distance printhead - cut edge		
	with cutter CU400	20.5	
	with perforation cutter PCU400	21.2	
	with stacker ST400	37.0	
J	Distance 1st heating point - material edge		
	203 dpi	-	-
	300 dpi	2.0	-
	600 dpi	2.0	-

Table 14: Device dimensions (Continued)

Dim.	Designation	Dim. in mm	
		QL-30/60 QL-30P/60 P	QL-30M/60 M QL-30MP/60MP
K	Print width		
	203 dpi	-	-
	300 dpi	105.6	105.6
	600 dpi	105.6	105.6
SXL	Distance gap/reflective sensor - material edge i.e. permissible distance of reflective or cut-out marks to the material edge	5 - 60	-
SXM	Distance gap/reflective sensor - middle of paper track i.e. permissible distance of reflective or cut-out marks from the middle of the material		-55 - 0
SY	Distance gap/reflective sensor - printhead	45.0	

Reflective Mark Dimensions

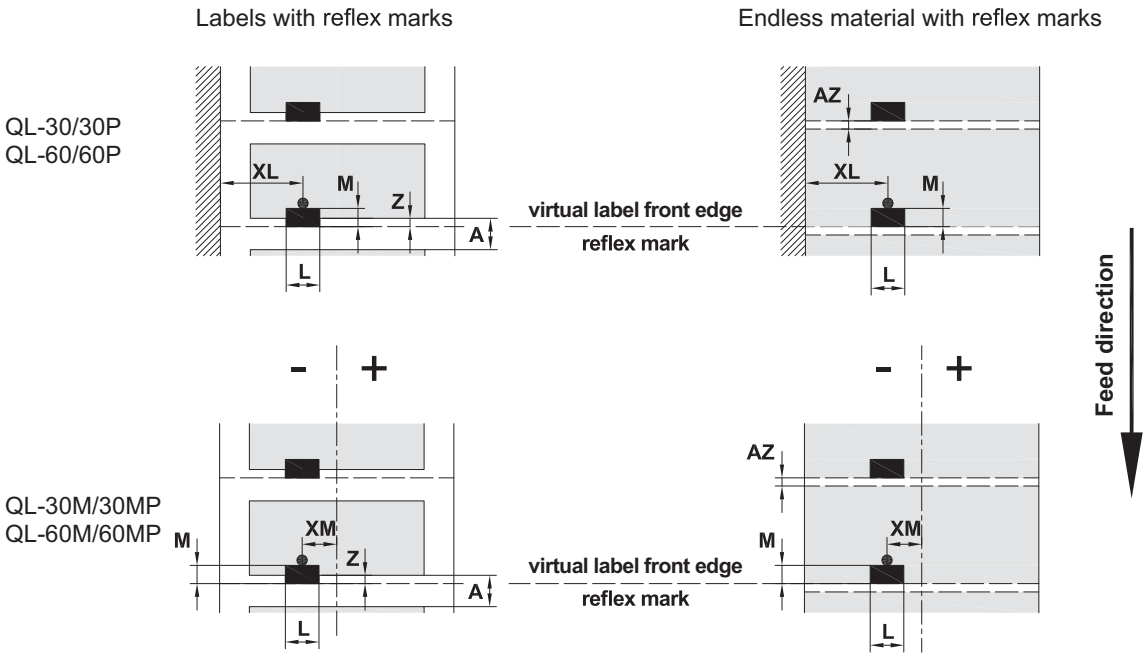


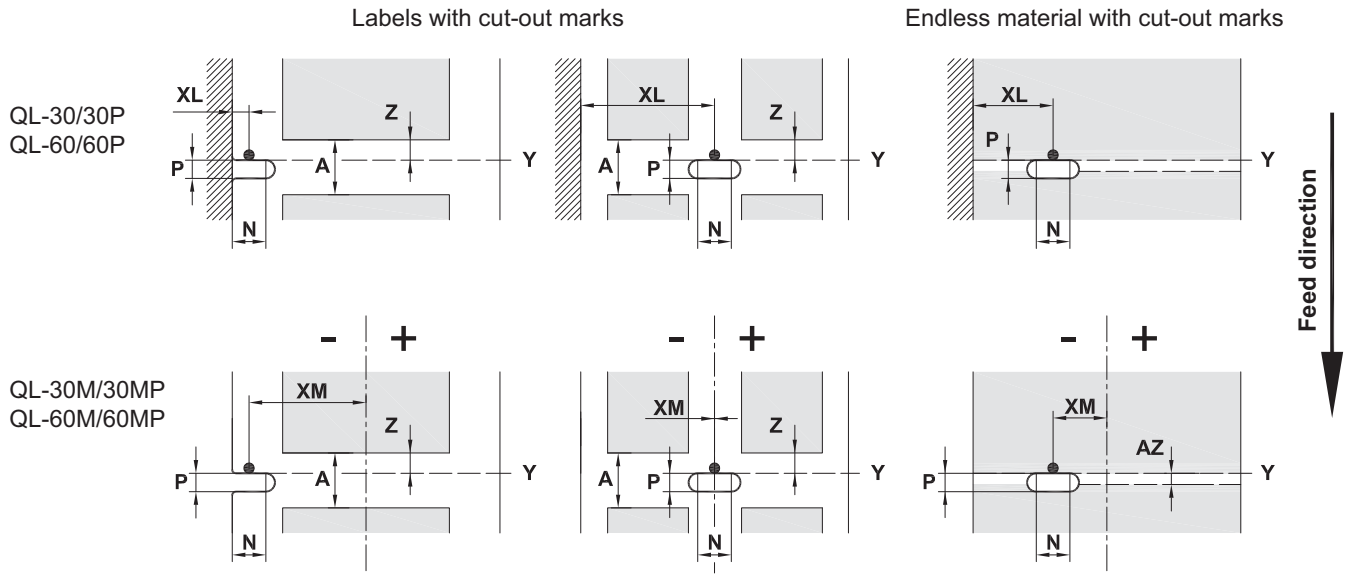
Figure 23: Reflective mark dimensions

Table 15: Reflective mark dimensions

Dim.	Designation	Dim. in mm
A	Label distance	> 2
AZ	Distance between print zones	> 2
L	Width of reflective mark	> 5
M	Height of reflective mark	3 - 10
XL	Distance mark - material edge	5 - 60
XM	Distance mark - middle of paper track	-55 - ±0
Z	Distance virtual label front edge - actual label front edge Adjust software settings	0 up to A recomm. : 0

- Reflective marks must be on the back side of the material (liner).
- Label sensor for reflective marks on the top side on request.
- Specification is valid for black marks.
- Recognition of colored marks may fail. Preliminary tests are needed.

Cut-out Mark Dimensions



for marginal cut-out marks
minimum liner thickness 0.06 mm

Figure 24: Cut-out mark dimensions

Table 16: Cut-out mark dimensions

Dim.	Designation	Dim. in mm
A	Label distance	> 2
AZ	Distance between print zones	> 2
N	Width of cut-out mark for marginal cut-out	> 5 > 8
P	Height of cut-out mark	2 - 10
XL	Distance mark - material edge	5 - 60
XM	Distance mark - middle of media track	-53 - ±0
Y	Sensor recognized virtual label front edge with gap sensor recognition	Rear edge cut-out
Z	Distance recognized front edge - actual label front edge Adjust software settings	0 up to A-P

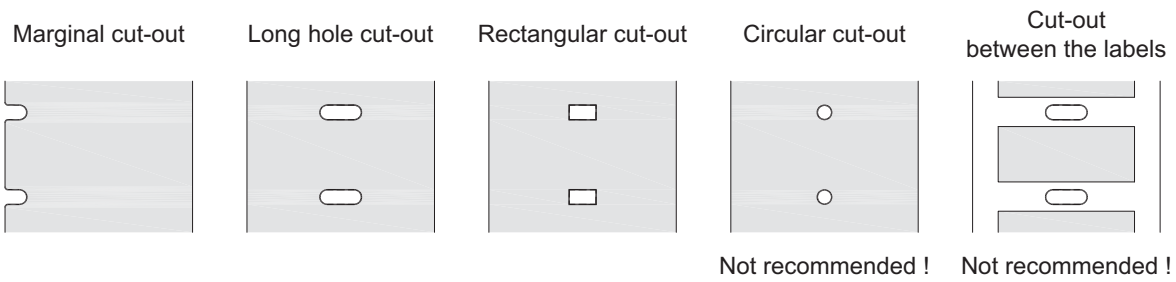


Figure 25: Samples for cut-out marks

Part 2

Configuration

This part provides detailed information about printer configuration. This part contains the following chapters:

9 Connecting Label Printer to Computer

Choose from the following options for connecting a computer to the label printer:

- Direct connection to the Ethernet interface. *See "Connecting Label Printer via Ethernet Interface" on page 70.*
- Connection via a computer network to the Ethernet interface. *See "Connecting Label Printer via Ethernet Interface" on page 70.*
- WLAN connection.
- Connection to the full-speed USB host interface (5). *See "Connecting Label Printer via USB Interface" on page 71.*
- Connection to the RS-232 interface.
- Connection via optional Bluetooth adapter connected to a USB host interface (4/9).

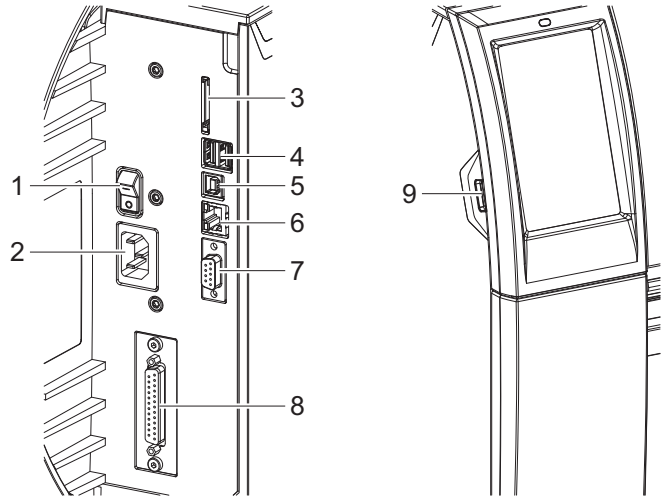


Figure 26: Connections

#	Description
1	Power switch
2	Power connection jack
3	Slot for SD card
4	2 USB host ports for keyboard, scanner, USB memory stick, Bluetooth adapter or service key
5	USB full-speed device port
6	Ethernet 10/100 Base-T

#	Description
7	Serial RS-232 port
8	I/O interface (Option)
9	USB host port for keyboard, scanner, USB memory stick, Bluetooth adapter or service key

Print Services Raw-IP and LPR/LPD in MS Windows

- Install a standard TCP/IP port as additional port for printing.
- During installation of the new port choose between “Raw” and “LPR”
- Raw-IP: Enter the same port address in the printer which you have selected during installation.

Note: *In the delivery status the print services RawIP (Port 9100) and LPD are activated on the printer.*

Adjusting Windows Printer Setting

When the printer driver valid for your Windows version is installed on your computer, Windows standard applications can be used to edit the label contents and to start the print jobs. To use the Raw-IP or LPR/LPD print services, the Windows printer settings must be adjusted:

1) Open the folder containing the printers via Start > Settings > Printers.
2) Right-click the icon of the label printer.

   A pop-up menu appears.
3) Select “Properties” in the pop-up menu.
4) Open the “Details” or “Connections” tab.

   This tab contains, among other things, the connections which were also set up when the print services were installed. The names of these connections depend on the installation tool used.
5) Select the Raw-IP or LPR connection.
6) Click OK.

Connecting Label Printer via Ethernet Interface

To connect the label printer to a network jack, a patch cable with an RJ45 plug for 10 Base T or 100 Base T is required.

Attention: *Use a shielded cable to connect the printer to the network.*

- Connect computer and label printer with a suitable cable.
- Make the settings for operation of the Ethernet interface. *See “Interfaces” on page 87.*

- Set up print service if necessary. *See "Print Services Raw-IP and LPR/LPD in MS Windows" on page 70.*
- Adjust Windows printer setting. *See "Adjusting Windows Printer Setting" on page 70.*

Attention: *Do not change the settings of the "IP" and "Gateway" on the printer web interface, as otherwise the connection to the printer may be lost.*

Setting Up a WLAN Connection

1) Start menu.
2) Select Setup > Interfaces > WLAN.
3) Activate WLAN. *See "Interfaces" on page 87.*
4) Select Access-Point.

   The search for access-points will be started. The display shows the available access-points including the hidden access-points.
5) Select an access point and confirm.

6) For hidden access-points enter the SSID.
7) Setup DHCP or IP and Mask and if necessary Gateway. *See "Interfaces" on page 87.*
8) If the network is protected a prompt to enter the passkey appears in the printer display. Enter the passkey and select:

9) Set up print service if necessary. *See "Print Services Raw-IP and LPR/LPD in MS Windows" on page 70.*
10) Adjust Windows printer setting. *See "Adjusting Windows Printer Setting" on page 70.*

Attention: *Do not change the settings of the "IP" and "Gateway" on the printer web interface, as otherwise the connection to the printer may be lost.*

Connecting Label Printer via USB Interface

The full-speed USB interface allows the label printer to be operated via a USB interface of a computer running one of the 32bit or 64bit operating systems:

- Windows Vista
- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- Windows Server 2003

- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2

A printer driver must be installed if a USB interface will be used for connection. The printer driver for your unit is found on the “Installer DVD” which is included in the delivery or on QuickLabel.com.

1) Switch label printer off.
2) Connect computer and label printer with an A-B cable.
3) Switch computer on.
4) Place the “Installer DVD” in the DVD drive.
5) Exit all programs currently running.
6) Switch printer on.

   The Windows Installation Wizard is started automatically.
7) Follow the on-screen instructions. After successful installation, an icon for the label printer appears in the Windows “Printer” system folder.
8) Click icon in “Printer” system folder and edit printer settings if necessary.

Connecting Label Printer via RS-232 interface

Table 17: Pin assignment of the RS-232 interface

Pin	Designation	Function
1	CD	Carrier Detect
2	TxD	Transmit Data
3	RxD	Receive Data
4	DTR	Data Terminal Ready (not used)
5	GND	Ground
6	DSR	Data Set Ready (not used)
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indication (not used)

1) Connect the 9-pin socket to the matching port of the computer.
2) Install the Windows Printer Driver from the DVD included in the delivery of the printer.

3) Configure the interface parameters of the interface matching to the settings of the computer. *See “Interfaces” on page 87.*

Setting Up a Bluetooth Connection

To set up a Bluetooth connection a Bluetooth USB Adapter (Part No. 5977732) is required.

Note: *Bluetooth software is delivered with the Bluetooth USB Adapter.*

1) Connect the Bluetooth USB adapter an to a USB host interface.
2) Switch on the printer.
3) Install the Bluetooth software on the computer.
4) Start the Bluetooth software.
5) Start “Search devices”.

   The printer will be shown in a list of Bluetooth devices.
6) Optional: For a well-defined connection of the devices select the printer and click “Connect Devices”. Either a passkey will be shown or a window will be opened where a passkey can be set. Set a passkey if necessary.

   The display of the printer shows a prompt to enter the passkey. Enter the passkey.
7) Select in the software “Connecting” via “Serial Bluetooth Interface”. The new interface, e.g COM5, will be shown.
8) Install the current printer with connection via the new COM interface in the label software or in Windows.

10 Info

The Info function provides an overview of important status information on the display of the printer.

- Start menu.
- Select Info.
- Return with Close.

The following parameters are displayed:

Table 18: Info display

Line	Meaning	Example
1	Printer type Version number and creation date of the firmware	QL-30 Firmware V5.00 Jul 08, 2016
2	Serial number of the PCB CPU	PCB 164162031171
3	Operative time and number of printed labels	Hours/no. of labels 86h/1134
4	Previously printed paper lengths with thermal direct printing / thermal transfer printing	Thermo/Transfer 4m/18m
5	IPv4 address of the printer when connected to a network via Ethernet	Ethernet IPv4 192.168.9.10
6	IPv6 address of the printer when connected to a network via Ethernet	Ethernet IPv6 N/A
7	MAC address of the network adapter on the PCB CPU	Ethernet MAC 70:82:0e:99:91:63
8	IPv4 address of the printer when connected to a network via WLAN	WLAN IPv4 172.20.200.63

Table 18: Info display (Continued)

Line	Meaning	Example
9	IPv6 address of the printer when connected to a network via WLAN	WLAN IPv6 N/A
10	MAC address of the WLAN adapter	WLAN MAC e8:4e:06:37:59:30
11	Zeroconf host name	mDNS ql-999163.local
12	Resolution, number of dots and revision of the printhead	TPH 300dpi, 1248dots Rev. 2.0.0
13	Revision of PCB CPU and the FPGA	PCB Rev. 0 FPGA Rev. 12

11 Security

In the Security menu the access rights for several printer functions can be set.

- Start menu.
- Select Security.

Table 19: Parameters of the Security menu

Icon	Parameter	Meaning	Default
	PIN protection	Password to protect certain parameters and functions accessible by the control panel.	0000
	Password ftpprint	Password for FTP printing • Login as ftpprint * Access only when Interfaces > Network services > FTP = “On”	print
	Password ftpcard	Password for FTP access to storage devices (USB stick, SD card, IFFS) • Login as ftpcard * Access only when Interfaces > Network services > FTP = “On”	card
	Password ftpadmin	Password for FTP firmware update • Login as ftpadmin * Access only when Interfaces > Network services > FTP = “On”	admin
	Password website	Password for Parameter setting via web interface • Login as admin * Access only when Interfaces > Network services > Website = “On”	admin

Table 19: Parameters of the Security menu (Continued)

Icon	Parameter	Meaning	Default
	Security web service	Authentication type for the SOAP protocol * Access only when Interfaces > Network services > Web service = “On”	Digest
	Password web service	Password for the SOAP protocol * Access only when Interfaces > Network services > Web service = “On”	soap
	Password VNC	Password for the VNC server * Access only when Interfaces > Network services > VNC server = “On”	vnc

12 Configuration

Configuration via Control Panel

A host of parameters for configuring the printer are found in the Setup menu.

- Configure the printer via the control panel during initial commissioning and when making major changes to the operational conditions.
- For changes required for processing different print jobs use software settings.

Note: *The Setup menu can be protected from unauthorized access via a code number (PIN).*

Printing

- Start menu.
- Select Setup > Printing.

Table 20: Parameters of the Setup > Printing menu

Icon	Parameter	Meaning	Default
	Heat level	Heating value for compensating for the differing thermal behavior of printheads. Changing this value is then especially necessary if the printing intensity has changed after replacing the printhead. • To adapt the printing intensity when using different media, print speeds or printing contents, you should change the heat level in the software. The settings of configuration and software are added together. The Heat level setting also affects the test printouts.	0

Table 20: Parameters of the Setup > Printing menu (Continued)

Icon	Parameter	Meaning	Default
	Print speed	Basic print speed setting. The print speed can be re-specified for each print job via software. The basic setting is not changed by this. The print speed setting also affects the test printouts.	50 mm/s
	Print position X	Shifting of the entire print image perpendicular to the direction of paper flow. The absolute shifting is limited by the margins of the print zone. Those are determined by the width of the printing line on the printhead. The setting can also be adjusted by the software. The settings of configuration and software are added together.	0.0 mm
	Print position Y	Shifting of the entire print image in the direction of paper flow. With positive values, printing begins later in the direction of paper flow. Shifting of the print image in the direction of paper flow also influences the peel and cut positions. • Correct the Peel position and Cut position parameters by the same value in the opposite direction. The setting can also be adjusted by the software. The settings of configuration and software are added together.	0.0 mm

Table 20: Parameters of the Setup > Printing menu (Continued)

Icon	Parameter	Meaning	Default
	Backfeed	Method for backfeeding the label medium. Backfeeding is necessary in the cutting and peel-off modes since a label is pushed out passed the front edge of the next label above the print line when peeling off/cutting. • Always: Backfeeding occurs independently of label contents. • Smart: Backfeeding only occurs when the next label is not yet completely prepared when peeling off/cutting the current label. Otherwise, the second label is pushed on and completed after removal of the first label without backfeeding.	smart
	Print on demand	Peel-off mode: Behavior after removing a label from the peel position • On: The next label will be printed and peeled-off after touching  • Off: The next label will be printed and peeled-off immediately	Off
		Cut mode: Behavior between the cuts • On: After cutting the next label will be printed and cut after touching  • Off: All labels will be printed and cut nonstop	

Table 20: Parameters of the Setup > Printing menu (Continued)

Icon	Parameter	Meaning	Default
	Reprint	Printing of another label with the information of the previous print job by touching  This function can be executed until the print buffer is cleared with  • Re-render: Adaption of counter values, variable data can be newly put in. • Duplicate: New label is identical with the last label of the print job. • Off: No reprint	Re-render

Labels

- Start menu.
- Select Setup > Labels.

Table 21: Parameters of the Setup > Labels menu

Icon	Parameter	Meaning	Default
	Label sensor	Method for detecting the starting end of the label. • Gap Sensor: Detection using changes in the transparency between the label and label gap. • Bottom-Reflect: Detection using reflective marks on the bottom of the medium. • Continuous media: Checking the existence of media only.	Gap sensor

Table 21: Parameters of the Setup > Labels menu (Continued)

Icon	Parameter	Meaning	Default
	Extrapolate labels	The positions of the labels which are between the label sensor and the printhead are calculated from the first label recognized by the sensor and the programmed label distance. That way those labels can be printed although the printhead previously was open.	Off

Ribbon

- Start menu.
- Select Setup > Ribbon.

Table 22: Parameters of the Setup > Ribbon menu

Icon	Parameter	Meaning	Default
	Transfer print	• On: Sensor for monitoring the transfer ribbon is activated. • Off: Sensor for monitoring the transfer ribbon is not activated. The setting can be overwritten for each print job via software. The basic setting is not changed by this.	On
	Warn level ribbon	Threshold diameter (32–74 mm) of the ribbon supply roll, if the value is undershot the “ribbon low” message will be activated	Off
	Pause on warning	The print job will be interrupted when the “ribbon low” message appears	Off

Tearing-off

- Start menu.
- Select Setup > Tearing-off.

Table 23: Parameters of the Setup > Tearing-off menu

Icon	Parameter	Meaning	Default
	Tear-off mode	Positioning the label medium for tearing off at the tear-off plate. • On: Additional advancement of the label medium which positions the label gap after the last printed label at the dispense plate. • Off: Label advance stops once the last label has fully passed the print line.	On
	Tear-off position	Shifting of the tear-off position in the direction of media flow. With positive values, the label strip is transported farther out of the printer.	0.0 mm

Cutting

Note: *If cutter is not installed, access only with service key inserted.*

- Start menu.
- Select Setup > Cutting.

Table 24: Parameters of the Setup > Cutting menu

Icon	Parameter	Meaning	Default
	Cut position	Offset of the cut position relative to the rear label edge. The setting can also be adjusted by the software. The settings of configuration and software are added together.	0.0 mm
	Perforation level	With perforation cutter only Setting of the perforation depth. The setting can also be adjusted by the software. The settings of configuration and software are added together.	0

Peeling-off

Note: *If peel-off module is not installed, access only with service key inserted.*

- Start menu.
- Select Setup > Peeling-off.

Table 25: Parameters of the Setup > Peeling-off menu

Icon	Parameter	Meaning	Default
	Peel-off position	Shift the position of the dispensed label relative to the dispensing edge. The setting can also be adjusted by the software. The settings of configuration and software are added together.	0.0 mm
	Backfeed delay	Delay time between removing the label from the peel position and the backfeed of the label.	250 ms
	Backfeed position	Offset of the backfeed movement	1.0 mm

Labeling

Note: *If applicator is not installed, access only with service key inserted.*

- Start menu.
- Select Setup > Labeling.

Table 26: Parameters of the Setup > Labeling menu

Icon	Parameter	Meaning	Default
	Transfer mode	Setting the operation mode Stamp on, Roll on, Blow on	Stamp on

Table 26: Parameters of the Setup > Labeling menu (Continued)

Icon	Parameter	Meaning	Default
	Cycle sequence	Setting the application mode Print-Apply/Apply-Print • Print-Apply: An external start signal releases the print of a label and following the application of the label. After a cycle is complete, the pad without label waits in the start position. • Apply-Print: An extra signal starts the print of the first label and the transfer of the label to the pad. The external start signal releases the application of the label and following the print and transfer of the next label. After a cycle is complete, the pad with a label is in the waiting position.	Print-Apply
	Waiting position	• Up: Pad waits in the start position for the start signal • Down: Pad waits in the labeling position for the start signal Only at Transfer mode = Blow on and Cycle sequence = Apply-Print	up
	Blow time	Switch-on time (max. 2.5 s) of the blowing air for the label transfer Only at Transfer mode = Blow on	1000 ms
	Roll-on time	Dwell time (max. 5 s) of the pad in the labeling position Only at Transfer mode = Roll on	1000 ms
	Support delay on	Setting the switch-on delay (max. 2.5 s) for the supporting air between print start and switching on the supporting air. The delay prevents swirling at the front of the label and, consequently, avoids faults when the label is being picked up from the printer.	0 ms

Table 26: Parameters of the Setup > Labeling menu (Continued)

Icon	Parameter	Meaning	Default
	Support delay off	Setting the switch-off delay (max. 2.5 s) for the supporting air between the end of label forwarding and switching on the supporting air. The delay can be useful to separate the rear edge of the label from the carrier to avoid errors and to improve the accuracy of label positioning	0 ms
	Start delay	Delay (max. 2.5 s) between start signal and the start of an labeling cycle. For example, allows the use of product sensors at conveyors.	0 ms
	Vacuum delay	On - The vacuum will be switched on after the label feed is completed. Off - The vacuum will be switched on when the label feed starts.	Off
	Vacuum control	Setting the label transfer check from printer to pad and from pad to product by the vacuum sensor	On
	Peel-off position	Shift the position of the dispensed label relative to the dispensing edge. The setting can also be adjusted by the software. The settings of configuration and software are added together.	0.0 mm

Interfaces

- Start menu.
- Select Setup > Interfaces.

Ethernet

Table 27: Parameters of the Setup > Interfaces > Ethernet menu

Icon	Parameter	Meaning	Default
	Hostname	Unique identification of the printer in a network in a human readable format	generated of OEM name and the last six digits of the MAC address
	DHCP	Method of issuing IP address • On: Dynamic issuing of IP address by the DHCP server • Off: Direct issuing of the IP address by the operator	On
	> IP address	IP address of the label printer. Only valid with DHCP = Off.	-
	> Netmask	Subnet mask (classification and address range) of the local network. Only valid with DHCP = Off.	-
	> Gateway	Connection address between the local network and other networks.	Off
	>> Gateway address	The IP address of the computer (router) on the network through which the connection can be established is used for this. The address of the router can also be issued via DHCP.	-

WLAN

Table 28: Parameters of the Setup > Interfaces > WLAN menu

Icon	Parameter	Meaning	Default
	WLAN	Activation of the WLAN interface	Off
	> Access-Point	Selection of the Access Point to setting up the WLAN connection.	-

Table 28: Parameters of the Setup > Interfaces > WLAN menu (Continued)

Icon	Parameter	Meaning	Default
	> DHCP	Ethernet > DHCP	On
	>> IP address	Ethernet > IP address	-
	>> Netmask	Ethernet > Netmask	-
	>> Gateway	Ethernet > Gateway	Off
	>>> Gateway address	Ethernet > Gateway address	-

Network Services

Table 29: Parameters of the Setup > Interfaces > Network services menu

Icon	Parameter	Meaning	Default
	FTP	Activation of the File Transfer Protocol	On
	LPD	Activation of the network printing service LPD	On
	RawIP	Activation of the network printing service RawIP and selection of the port address	9100
	Website	Activation of the Hypertext Transfer Protocol for access to the internal printer website	On
	Web service	Activation of the Simple Object Access Protocol	Off
	SNMP	Data exchange between printer and management station via Simple Network Management Protocol	Off
	> SNMP community	Keyword to assign the SNMP rights	public
	VNC server	Activation of the VNC server for remote access to the control panel	Off

Table 29: Parameters of the Setup > Interfaces > Network services menu (Continued)

Icon	Parameter	Meaning	Default
	Zeroconf	Activation of the auto-configuring Zeroconf method for ad-hoc networks	Off

RS-232

Table 30: Parameters of the Setup > Interfaces > RS-232 menu

Icon	Parameter	Meaning	Default
	Baud rate	Speed (in Baud) of data transfer	115.200
	Handshake	Data transfer protocol	RTS/CTS

I/O

Table 31: Parameters of the Setup > Interfaces > I/O menu

Icon	Parameter	Meaning	Default
	START mode	Configuration of the I/O signal START • Edge: A label will be printed by switching on 24V between START and GND_EXT. • Level: In Rewind mode labels are printed as long as 24V are switched on between START and GND_EXT. In Peel-off mode a label will be printed after receiving the signal LBLREM as long as 24V are switched on between START and GND_EXT.	Edge

Table 31: Parameters of the Setup > Interfaces > I/O menu (Continued)

Icon	Parameter	Meaning	Default
	REPRINT mode	Configuration of the I/O signal REPRINT • Edge: A label will be repeated by switching on 24V between REPRINT and GND_EXT. • Level: A label will be repeated as long as 24V are switched on between REPRINT and GND_EXT. • START/REPRINT select: A label will be repeated when 24V are switched on between REPEAT and GND_EXT and the START signal will be activated additionally.	Edge
	Automatic LBLREM	Simulation of the I/O signal LBLREM For peel-off mode without present sensor • On: With the signal START the removing of the previous label also will be confirmed. • Off: To confirm the label removing the signal LBLREM must be activated.	Off

Errors

- Start menu.
- Select Setup > Errors.

Table 32: Parameters of the Setup > Errors menu

Icon	Parameter	Meaning	Default
	Error-Reprint	• On: With a correctable error and corresponding troubleshooting, the label being printed when the error occurs is repeated. • Off: Print job is continued with the next label.	On
	Syntax error	Printer switches to error mode after receipt of an incorrect command.	On

Table 32: Parameters of the Setup > Errors menu (Continued)

Icon	Parameter	Meaning	Default
	Barcode error	• On: With faulty barcode contents or size specifications, printing is interrupted. • Off: Printing is not interrupted if an error occurs. If barcode contents are faulty, the printer attempts to replace the incorrect data with valid characters (e.g. zeros). If barcode size specifications are faulty, a gray area is printed instead of the barcode.	On
	Network error	Printer switches to error mode when problems with the network connection occur.	Off

Region

- Start menu.
- Select Setup > Region.

Table 33: Parameters of the Setup > Region menu

Icon	Parameter	Meaning	Default
	Language	Setting the display language	English
	Country	Setting the country-specific date and time formats. The time formats can also be overwritten via software. The changes are not saved permanently, however.	USA
	Keyboard	Setting of the keyboard layout when using an external keyboard.	Automatic (=Country)

Time

- Start menu.
- Select Setup > Time.

Table 34: Parameters of the Setup > Time menu

Icon	Parameter	Meaning	Default
	Date	Setting of the system date in the format DD.MM.YYYY. The print output of the date occurs in the format set via the Country parameter. The date can also be changed via software. The change is not saved permanently, however.	-
	Time	Setting the system time in the HH:MM:SS format. When changing the time, ensure that the Timezone, Daylight saving and Date parameters are set correctly. The time can also be synchronized automatically via the internet using the Ethernet interface. The print output of the time occurs in the format set via the Country parameter. The time can also be changed via software. The change is not saved permanently, however.	-
	Time zone	Adaptation of the time display of the printer to the time zone in relation to UTC (Universal Time Coordinated).	UTC+1
	Daylight saving	Selection of the daylight saving regulation applicable for the region. The time is then changed automatically.	EU
	Time synchronization	Activation of a service to synchronize date and time of the printer.	NTP
	> Time server	IP address of the time server	-

Display

- Start menu.
- Select Setup > Display.

Table 35: Parameters of the Setup > Display menu

Icon	Parameter	Meaning	Default
	Orientation	Adaptation of the display contents to the display orientation.	0°
	Brightness	Brightness of the LCD display.	8
	Time powersave	Time between the last operation and activation of energy-saving mode.	5 min

Interpreter

- Start menu.
- Select Setup > Interpreter.

Table 36: Parameters of the Setup > Interpreter menu

Icon	Parameter	Meaning	Default
	Character set	Selection of the character set table for adaptation to the computer system used. Switching the character set via software is not possible. Characters not available in the selected character set can be accessed using the Unicode table.	UTF-8
	USB	Choosing between the programming languages JScript and ZPL for data transfer via USB interface	JScript
	RS-232	Choosing between the programming languages JScript and ZPL for data transfer via RS-232 interface	JScript
	FTP	Choosing between the programming languages JScript and ZPL for data transfer via FTP	JScript

Table 36: Parameters of the Setup > Interpreter menu (Continued)

Icon	Parameter	Meaning	Default
	LPD	Choosing between the programming languages JScript and ZPL for printing with LPD	JScript
	RawIP	Choosing between the programming languages JScript and ZPL for printing with RawIP	JScript
	Bluetooth	Choosing between the programming languages JScript and ZPL for data transfer via Bluetooth * only with Bluetooth adapter installed	JScript

ZPL

- Start menu.
- Select Setup > ZPL.

Table 37: Parameters of the Setup > ZPL menu

Icon	Parameter	Meaning	Default
	> Printing width	Setting the print width for ZPL programming	100.0 mm
	> Label length	Setting the label length for ZPL programming	150.0 mm

Configuration via the Web Interface

The parameters accessible via the control panel can also be set via the web interface contained in the firmware of the printer.

The printer web interface can be accessed with a browser (e.g. Microsoft Internet Explorer, Mozilla Firefox) with JavaScript activated via the Ethernet interface or the optional WLAN interface.

Calling Up the Web Interface

Attention: *Whenever settings are changed via the web interface you are requested to enter the user name "admin" and a password. The default value of the password is also "admin". The password can be changed via the web interface.* *See "Setup Tab" on page 97.*

1) Start the browser.

2) Call the web interface by entering the IP address via HTTP (e.g. http://192.168.100.208). The “Status” tab is opened on the home screen.

The web interface contains the following tabs:

- Status: general status description. *See “Status Tab” on page 96.*
- Setup: configuration parameter settings. *See “Setup Tab” on page 97.*
- Security: password settings. *See “Security Tab” on page 98.*
- Devices: list of the hardware and optional components. *See “Devices Tab” on page 99.*
- Fonts: overview of the available fonts. *See “Fonts Tab” on page 100.*

Status Tab

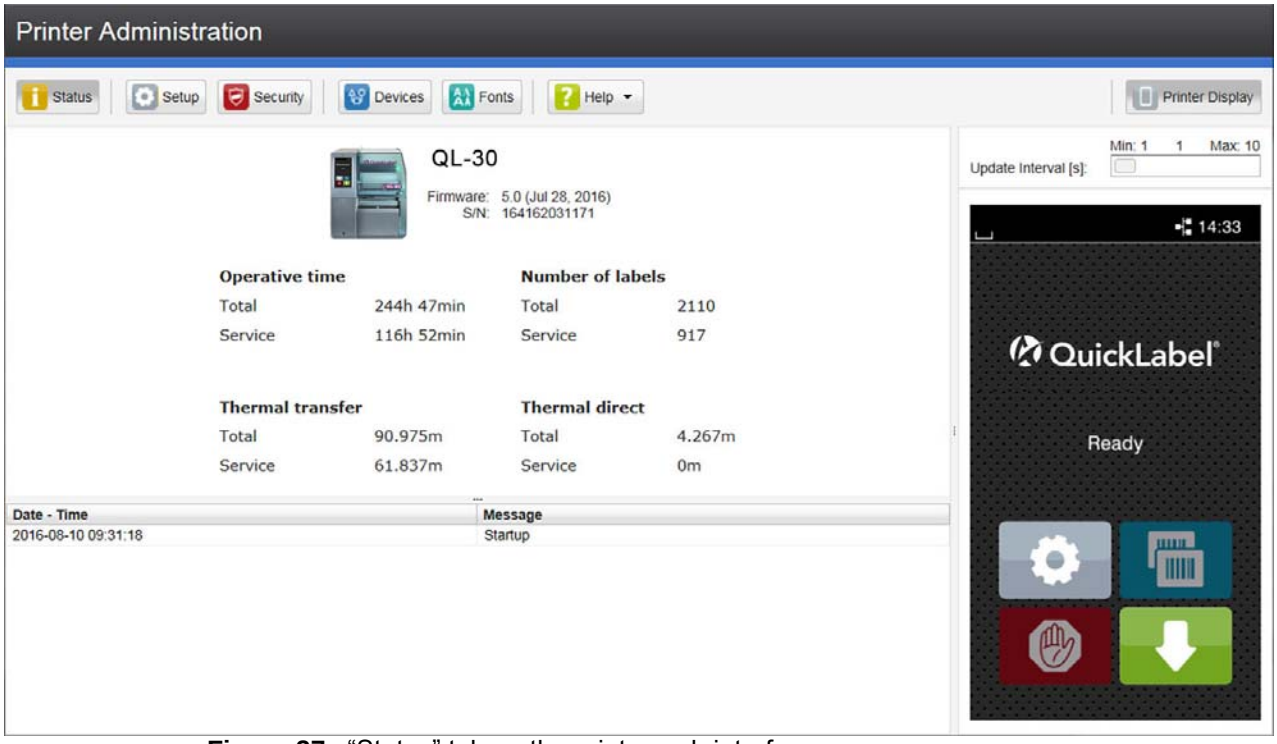


Figure 27: “Status” tab on the printer web interface

The following information is contained in the left top section of the “Status” tab:

- Printer type
- Firmware version
- Serial number of the PCB CPU
- Operative time of the printer
- Number of labels printed since commissioning
- Previously printed media length with thermal transfer printing
- Previously printed media length with thermal direct printing

A list of the events which have occurred since the printer was switched on is to be found in the left bottom section of the tab.

The right section of the tab shows the current printer display information.

Note: *By clicking the buttons the printer can be operated in the same manner as by using the touchscreen on the device. When the printer display is selected by mouse click, it is possible to use the computer keyboard in the same manner like an External Keyboard (e.g. for entering variable input data).*

Setup Tab

On the “Setup” tab all the configuration parameters can be set which are also accessible via the control panel in the Setup menu.

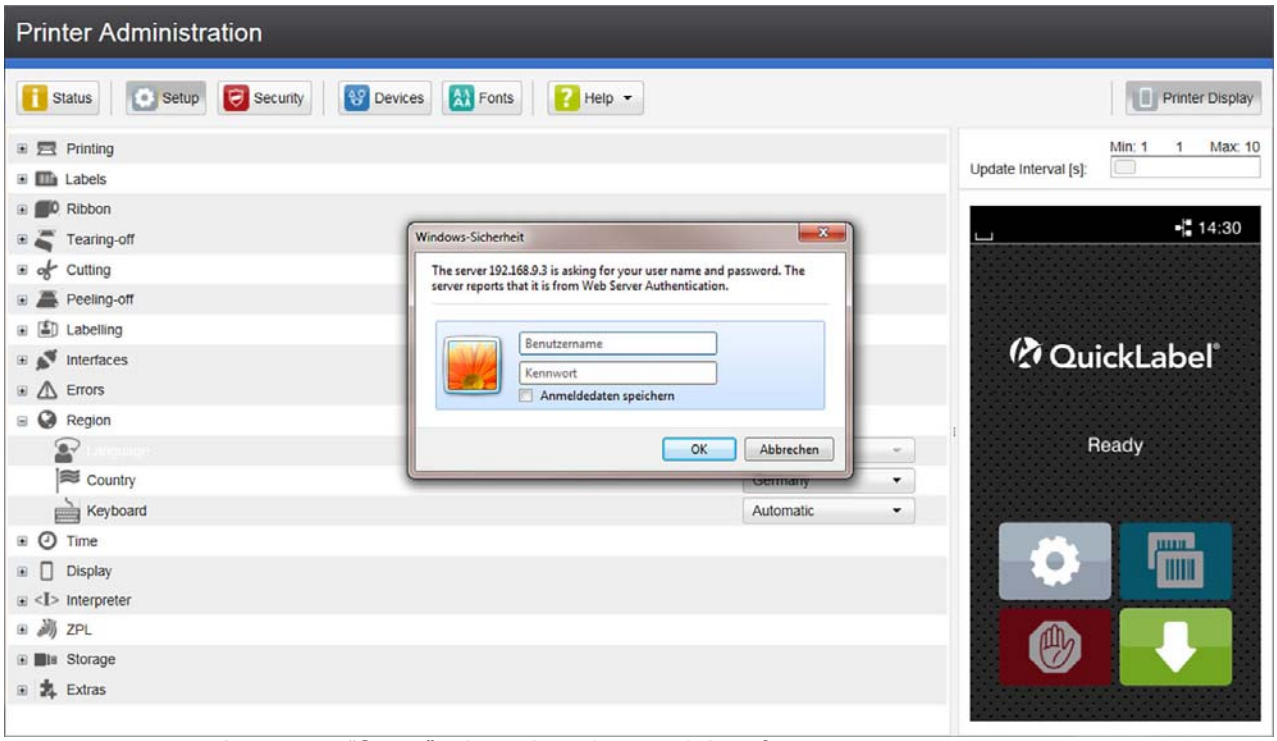


Figure 28: “Setup” tab on the printer web interface

To change a parameter:

1) Locate parameter in the tree structure.
2) Set the value of the parameter at the right end of the concerning line.

   A prompt to enter user name and password appears. *See “Security” on page 77.*
3) Enter user name and password and click OK.

Security Tab

On the “Security” tab the access rights for several printer functions can be set. The tab contains the same parameters as the Security menu of the Setup page. *See “Setup Tab” on page 97.*

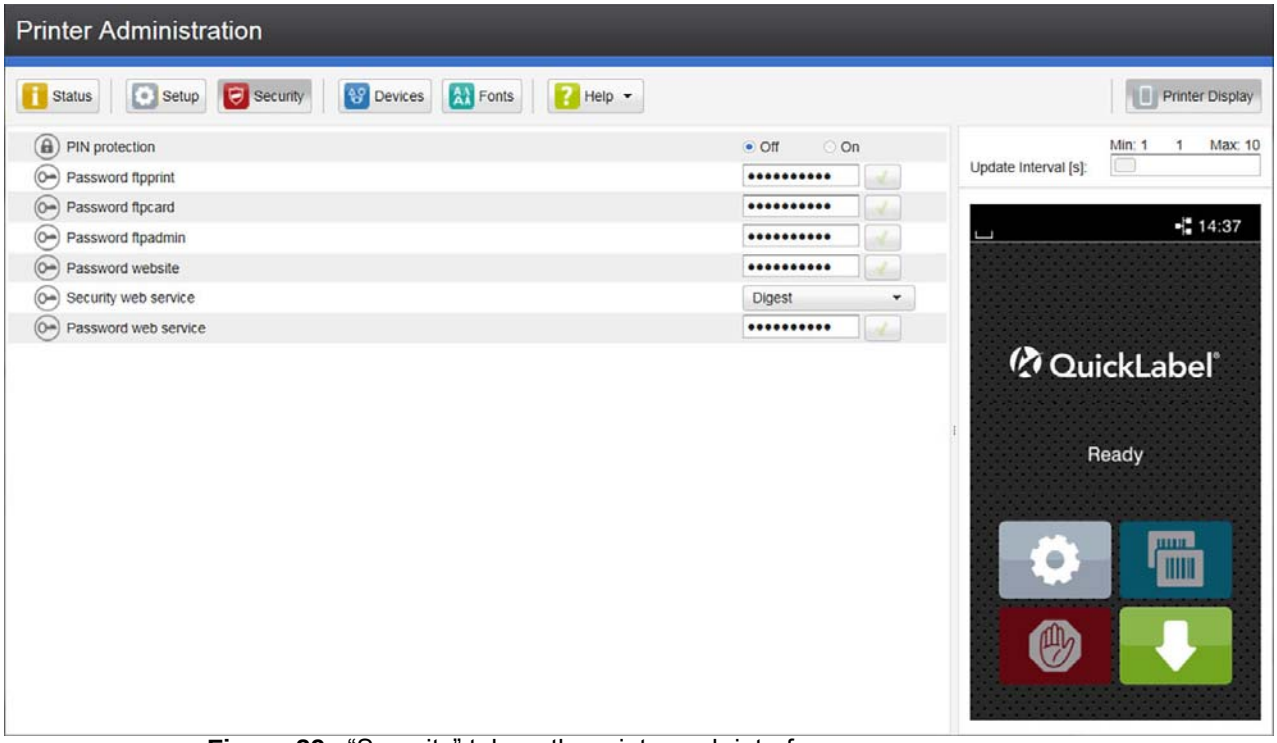


Figure 29: “Security” tab on the printer web interface

To change a parameter:

1) Locate parameter in the tree structure.
2) Set the value of the parameter at the right end of the concerning line.

   A prompt to enter user name and password appears. *See “Security” on page 77.*
3) Enter user name and password and click OK.

Devices Tab

The “Devices” tab provides an overview of the most important hardware components installed in the printer and the optional devices connected.

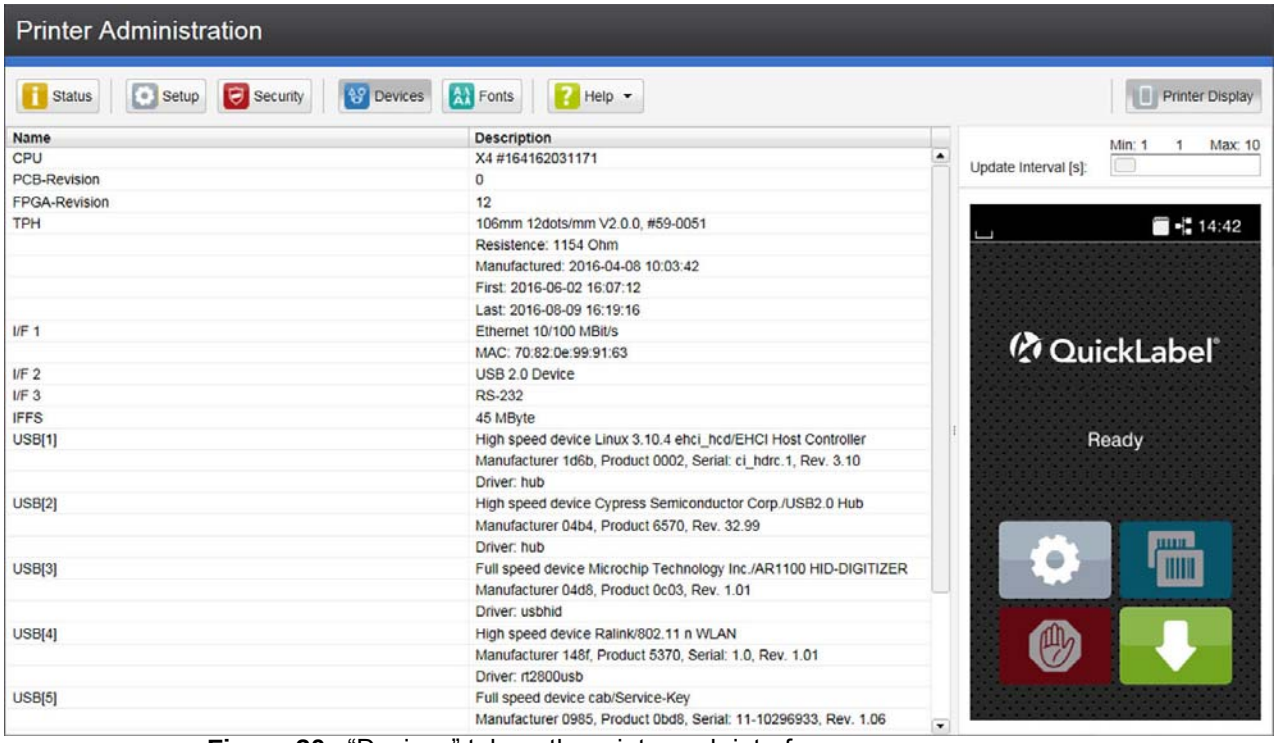


Figure 30: “Devices” tab on the printer web interface

The contents of the display correspond with those of the Device list. *See “Device List” on page 105.*

Fonts Tab

The most important parameters of the fonts available in the printer are listed on the “Fonts” tab. The table contains both the original fonts in the printer and other fonts loaded into the printer.

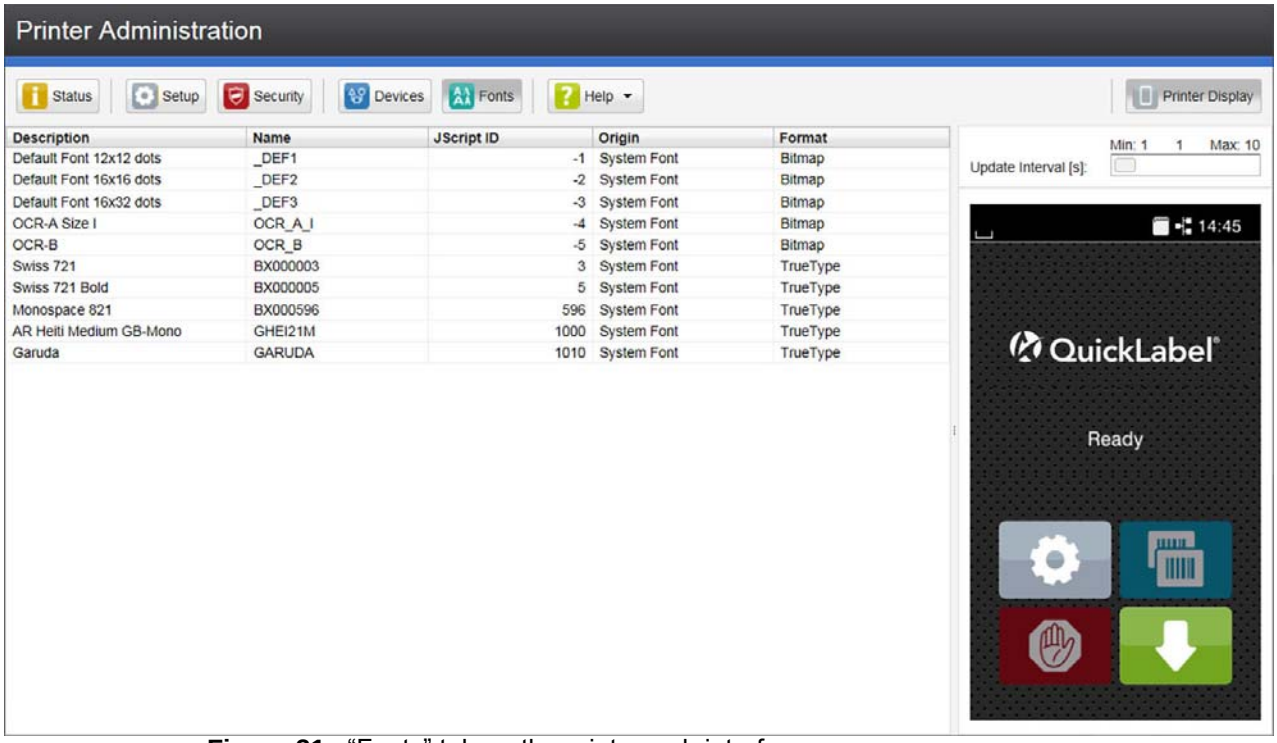


Figure 31: “Fonts” tab on the printer web interface

The parameters correspond to those in the Font list. *See “Font list” on page 104.*

Help Menu

Independent from the chosen tab some help functions can be selected.

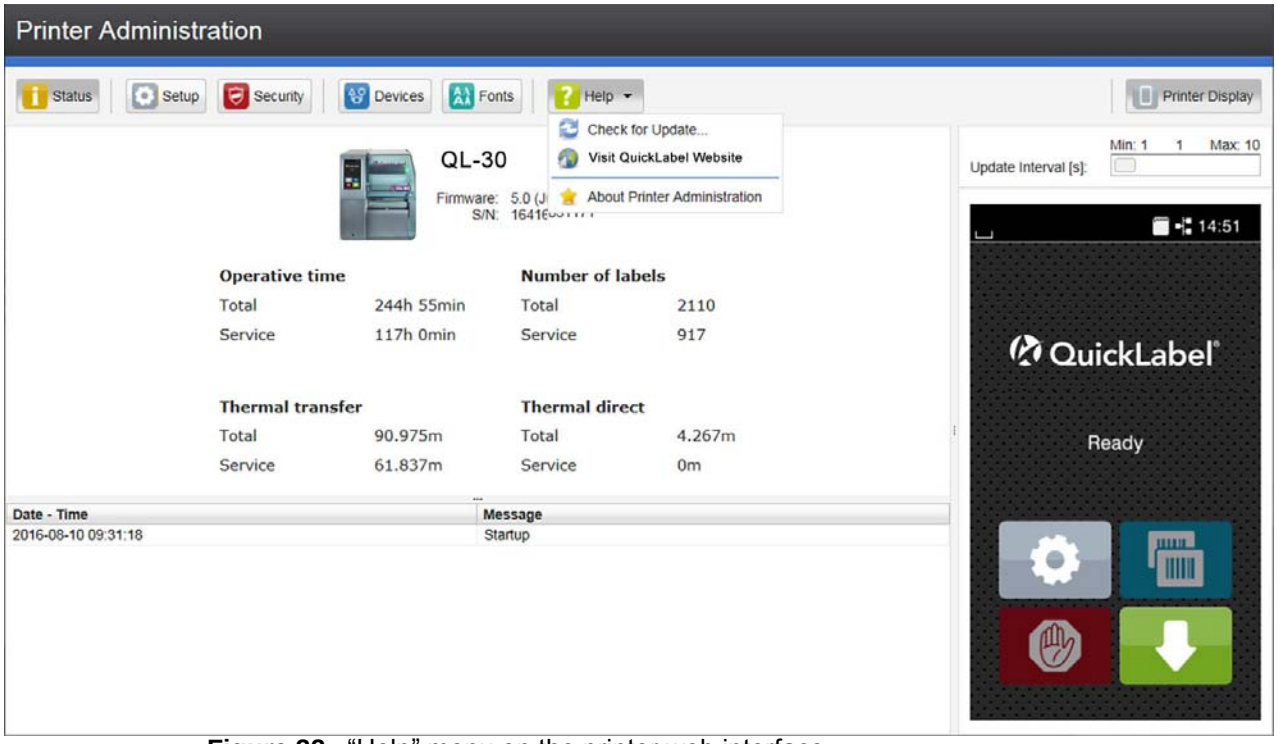


Figure 32: "Help" menu on the printer web interface

In the Help menu, you can:

- Check the firmware version and availability of updates.
- Visit the QuickLabel website.
- View information about the version and the latest alterations of the web interface.

13 Test Functions

Overview

The Test menu contains test functions providing information on:

- the most important configuration parameters
- the fonts available in the printer
- important hardware components and connected peripheral devices
- the print image quality and state of the thermal printhead
- available WLAN networks.

Status Print

The Status print function prints a test image containing information on the configuration and status of the printer. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

1) Insert printable medium (labels, continuous media) which extends across the entire printing width.
2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3) Start menu.
4) Select Test > Status print.

The printout can be canceled with the following icon:

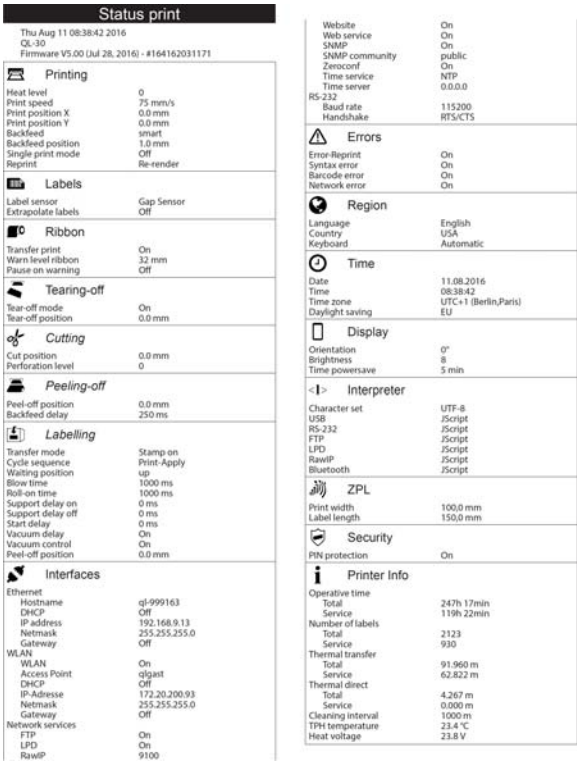


Figure 33: Status print

Parameters marked italic are only printed when the printer is equipped with the respective optional assembly or when the service key is inserted

Font list

The Font list function prints the most important parameters of the fonts available in the printer in tabular form. The table contains both the original fonts in the printer and other fonts loaded into the printer. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

1) Insert printable medium (labels, continuous media) which extends across the entire printing width.
2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3) Start menu.
4) Select Test > Font list.

The printout can be canceled with the following icon:

Font list

Thu Aug 11 09:44:06 2016
QL-30
Firmware V5.00 (Jul 28, 2016) - #164162031171

No.	Name	Type	Description
-1	_DEF1	Bitmap	Default Font 12x12 dots
-2	_DEF2	Bitmap	Default Font 16x16 dots
-3	_DEF3	Bitmap	Default Font 16x32 dots
-4	OCR_A_I	Bitmap	OCR-A Size I
-5	OCR_B	Bitmap	OCR-B
3	BX000003	TrueType	Swiss 721
5	BX000005	TrueType	Swiss 721 Bold
596	BX000596	TrueType	Monospace 821
1000	GHEI21M	TrueType	AR Heiti Medium GB-Mono
1010	GARUDA	TrueType	Garuda

Figure 34: Font list

Table 38: Parameters of the Font list

Name	Description
No.	ID number of the font required for programming (command T).
Name	Name with which the font is saved internally.
Type	Type of font generation. It provides information on the variability of the font and is important when programming (command T).
Description	Explanations of the font: size, font family. The printout occurs in the appropriate font.

Device List

The Device list function prints out the most important information on hardware components of the printer and connected devices. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

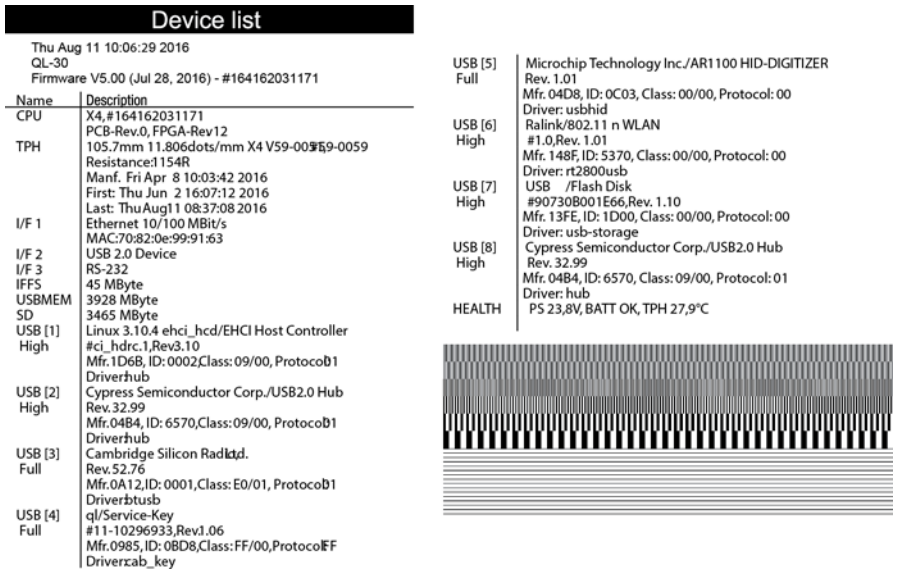
1) Insert printable medium (labels, continuous media) which extends across the entire printing width.

2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.

3) Start menu.

4) Select Test > Device list.

The printout can be canceled with the following icon:



Device list

Thu Aug 11 10:06:29 2016
QL-30
Firmware V5.00 (Jul 28, 2016) - #164162031171

Name	Description
CPU	X4,#164162031171
	PCB-Rev.0, FPGA-Rev12
TPH	105.7mm 11.806dots/mm X4 V59-00[illegible]59-0059
	Resistance:1154R
	Manf. Fri Apr 8 10:03:42 2016
	First: Thu Jun 2 16:07:12 2016
	Last: Thu Aug11 08:37:08 2016
I/F 1	Ethernet 10/100 MBit/s
	MAC:70:82:0e:99:91:63
I/F 2	USB 2.0 Device
I/F 3	RS-232
IFFS	45 MByte
USBMEM	3928 MByte
SD	3465 MByte
USB [1] High	Linux 3.10.4 ehci_hcd/EHCI Host Controller #ci_hdrc.1,Rev3.10 Mfr.1D6B, ID: 0002,Class: 09/00, Protocol:01 Driver:hub
USB [2] High	Cypress Semiconductor Corp./USB2.0 Hub Rev.32.99 Mfr.04B4, ID: 6570,Class: 09/00, Protocol:01 Driver:hub
USB [3] Full	Cambridge Silicon Radio Ltd. Rev.52.76 Mfr.0A12,ID: 0001,Class: E0/01, Protocol:01 Driver:btusb
USB [4] Full	ql/Service-Key #11-10296933,Rev1.06 Mfr.0985, ID: 0BD8,Class: FF/00,Protocol:FF Driver:ab_key
USB [5] Full	Microchip Technology Inc./AR1100 HID-DIGITIZER Rev. 1.01 Mfr. 04D8, ID: 0C03, Class: 00/00, Protocol: 00 Driver: usbhid
USB [6] High	Ralink/802.11 n WLAN #1.0,Rev. 1.01 Mfr. 148F, ID: 5370, Class: 00/00, Protocol: 00 Driver: rt2800usb
USB [7] High	USB /Flash Disk #90730B001E66,Rev. 1.10 Mfr. 13FE, ID: 1D00, Class: 00/00, Protocol: 00 Driver: usb-storage
USB [8] High	Cypress Semiconductor Corp./USB2.0 Hub Rev. 32.99 Mfr. 04B4, ID: 6570, Class: 09/00, Protocol: 01 Driver: hub
HEALTH	PS 23,8V, BATT OK, TPH 27,9°C

Figure 35: Device list

Parameters marked italic are only printed when the service key is inserted

Table 39: Parameters of the Device list

Name	Description
CPU	Type and serial number of the PCB CPU Revision of PCB CPU and FPGA
TPH	Print width and resolution of the installed thermal printhead
IF [x]	Type of interfaces installed x: Number of interface
IFFS	Size of the Internal Flash File System
USBMEM	Size and type of an installed USB storage device
SD	Size and type of an installed SD card

Table 39: Parameters of the Device list (Continued)

Name	Description
USB [a] Speed	Type and revision of installed USB devices • a: number of USB device • Speed: data transfer speed (low, full, high) The following properties are only displayed when the service key is inserted: • Mfr.: Manufacturer ID. This identifies the manufacturer of the USB device • Class: Code for the USB device class • Protocol: Code for the type of communication with the USB device • Phase: Internal value for troubleshooting
HEALTH	Printhead voltage, charge state of the lithium battery on the PCB CPU, temperature of CPU and printhead
Line pattern	Lines differing in thickness at various distances. They are used to evaluate the print quality.

Test Grid

The Test grid function prints out a geometric pattern on a background grid. This allows you to assess the evenness of the print quality.

The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

1) Insert printable medium (labels, continuous media) which extends across the entire printing width.
2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3) Start menu.
4) Select Test > Test grid.

   The geometric pattern is printed every 3 seconds once the Test grid function is started.

The printout can be canceled with the following icon:

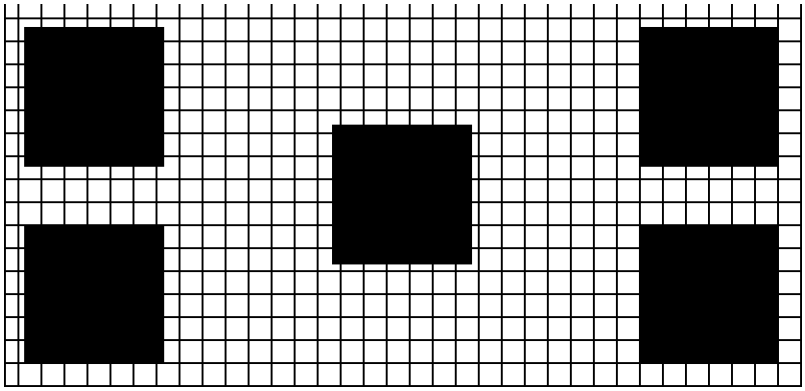


Figure 36: Test grid

WiFi Status

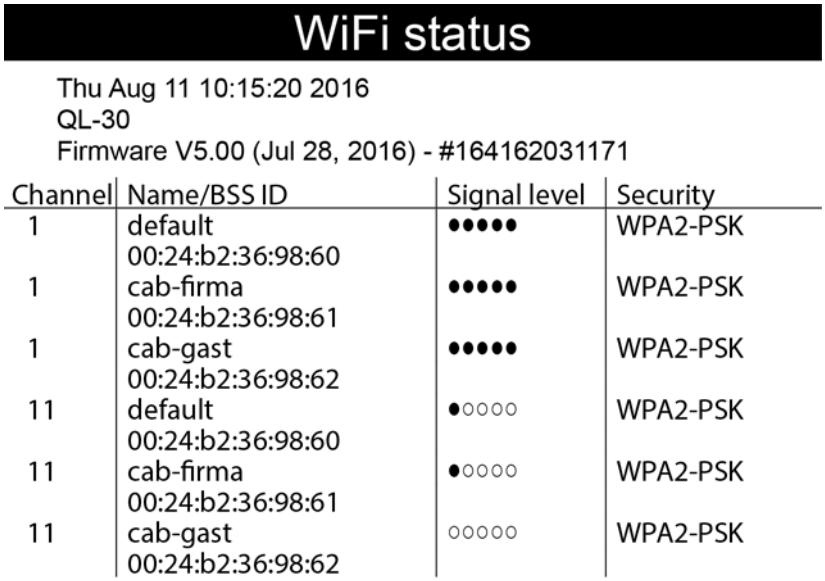
Note: *Access only when WLAN is activated!*

The WiFi status function prints out a list with the most important parameters of the accessible Wireless Access Points. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

1) Insert printable medium (labels, continuous media) which extends across the entire printing width.
2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3) Start menu.
4) Select Test > WiFi status.

The printout can be canceled with the following icon:



WiFi status

Thu Aug 11 10:15:20 2016
QL-30
Firmware V5.00 (Jul 28, 2016) - #164162031171

Channel	Name/BSS ID	Signal level	Security
1	default 00:24:b2:36:98:60	●●●●●	WPA2-PSK
1	cab-firma 00:24:b2:36:98:61	●●●●●	WPA2-PSK
1	cab-gast 00:24:b2:36:98:62	●●●●●	WPA2-PSK
11	default 00:24:b2:36:98:60	●○○○○	WPA2-PSK
11	cab-firma 00:24:b2:36:98:61	●○○○○	WPA2-PSK
11	cab-gast 00:24:b2:36:98:62	○○○○○	WPA2-PSK

Figure 37: WiFi status

Table 40: Parameters of the WiFi status

Name	Description
Channel	Channel; frequency range of the Access Point
Name/BSS ID	Name of the wireless LAN MAC address of the Access Points
Signal level	Scale of the WiFi signal strength
Security	Type of data encryption

14 Diagnostic Functions

The Diagnostics menu contains several functions for troubleshooting.

ASCII Dump Mode

ASCII Dump Mode offers the option of checking incoming control sequences at an interface. The commands are printed out as text. In addition, a corresponding error message is printed out immediately after an error occurs.

The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

Note: *In case of questions about programming, keep a printout of your label file which was created in ASCII Dump Mode handy. The printout can be transmitted clearly via fax.*

1) Insert printable medium (labels, continuous media) which extends across the entire printing width.
2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3) Start menu.
4) Select Diagnostics > ASCII Dump Mode.
5) Send print jobs.
6) Select to cancel the printout or switch to the Ready mode.

Example

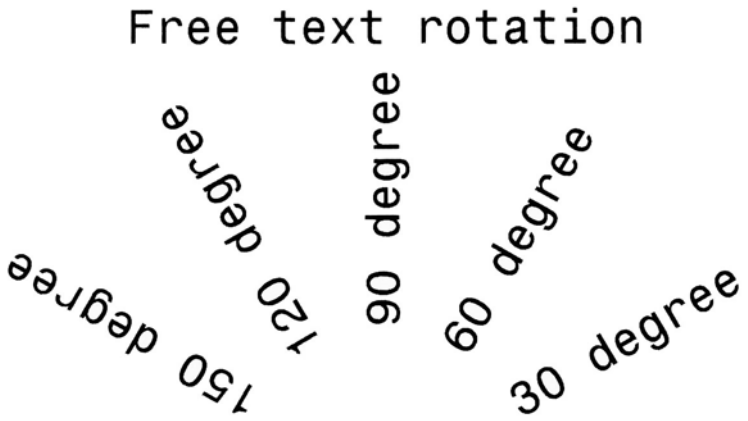


Figure 38: Example label printed normally

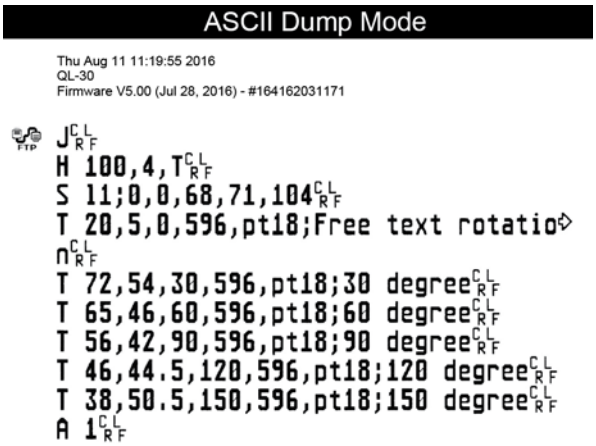


Figure 39: Example label printed in ASCII dump mode

The control characters (ASCII-Code 00...31) are presented in stylized design.

Label Profile

The Label profile function carries out a longer label advance. It saves the values measured by the label sensor here and then prints them out in a diagram.

The printout is used to check label detection in conjunction with the optical properties of the label medium. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

1) Select the label sensor to be tested in the Setup > Labels menu. *See "Labels" on page 82.*
2) Load the label medium to be tested into the printer.
3) Start menu.

4) Select Diagnostics > Label profile.

   The printer performs a longer label advance. The label sensor measures the transparency/reflection capacity of the label material here. The message Insert appears in the display once the advance is complete.

5) Insert printable medium (labels, continuous media) which extends across the entire printing width.

6) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.

7) Start the diagram printout with Continue.

The printout can be canceled with the following icon:

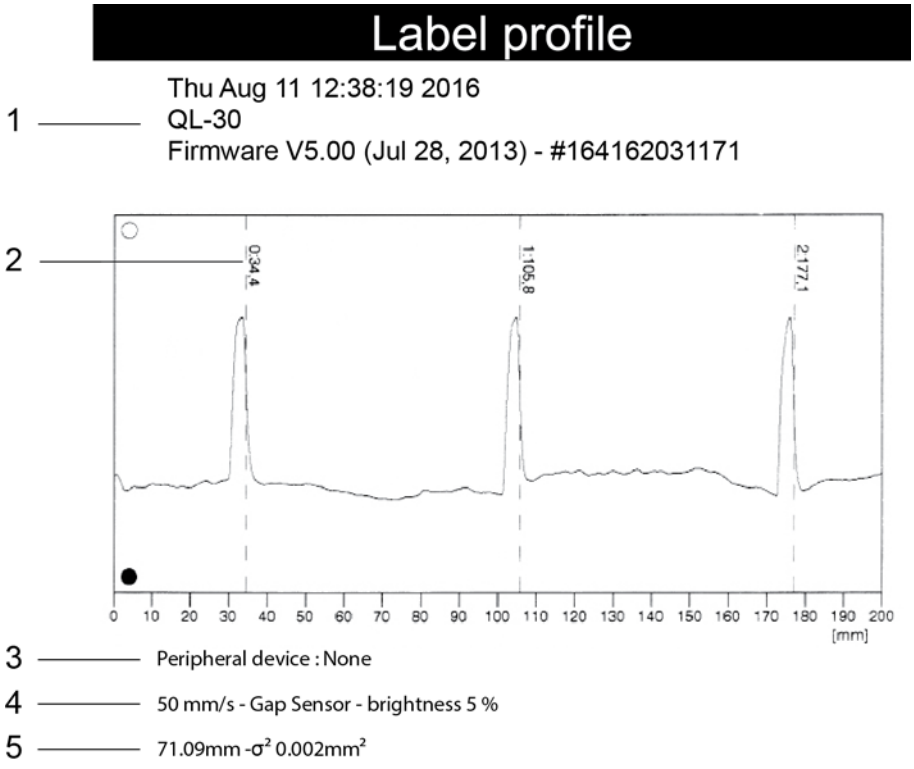


Figure 40: Label profile

Table 41: Information in Label profile

#	Description
1	Date and time of the printout Device type Version and creation date of the firmware Serial number of the PCB CPU Firmware version and serial number of the label sensor
2	Coordinate in the direction of media flow at which the label start was detected
3	Type of peripheral device connected
4	Print speed, method of label detection (Gap sensor / Bottom-reflect sensor) Brightness of the sensor LED during the measurement
5	Average value and variation of label distances

Event Log

The label printer saves the following events in the Event log:

- Hardware fault
- Printhead replacement
- Firmware updates
- Changing the OEM name
- Resetting of the service counters

The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Note: *The printout occurs without taking the label gaps into consideration. This is why continuous media is most suitable for this purpose.*

1) Insert printable medium (labels, continuous media) which extends across the entire printing width.
2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3) Start menu.

4) Select Diagnostics > Event log.

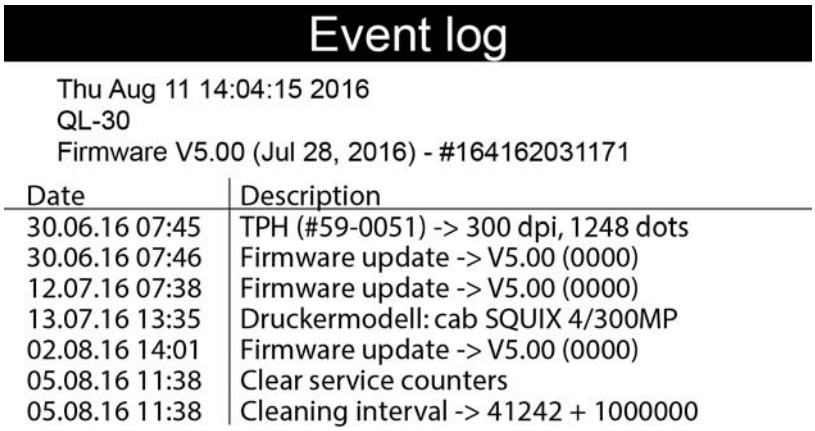


Figure 41: Event log

Save Data Stream

Note: *Access only with external storage device!*

The function Save data stream allows you to store data incoming via an interface as a .lbl file to an external storage device (SD card, USB memory module) installed on the printer.

1) Insert SD card or USB memory module.
2) Start menu.
3) Select Diagnostics > Save data stream.
4) Select the external storage device.
5) Enter a file name.

   The predefined name is composed of the identifier “log”, date, clock time and the suffix “.lbl”, but may also be altered.

   Confirm the selection.

6) In the status line of the display the data saving is indicated by the symbol.

7) Send print jobs. All data received by the printer are stored in the .lbl file.

8) To complete the function select Diagnostics > Save data stream again and confirm with OK. The .lbl file will be stored in the root of the storage device.

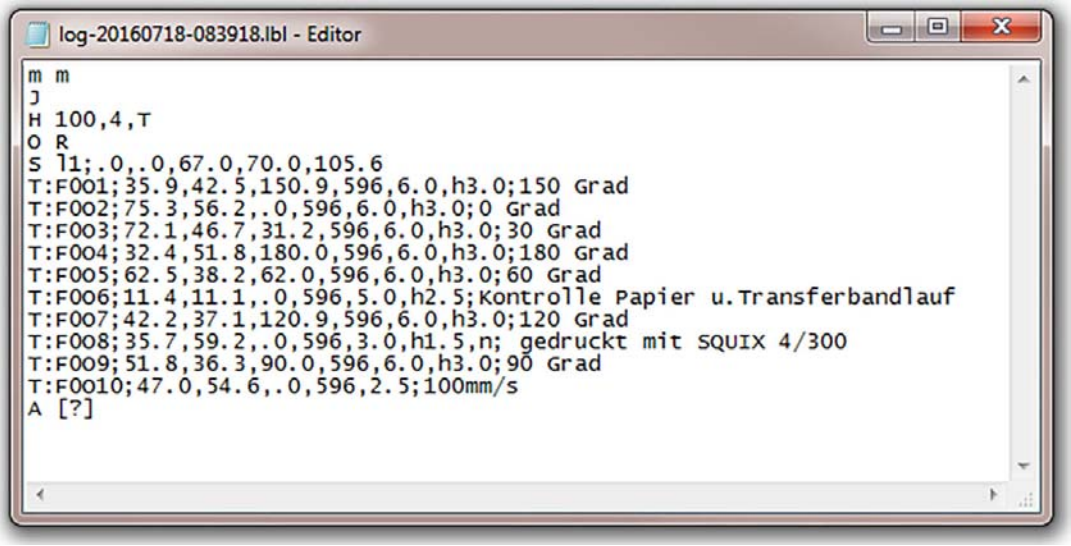


Figure 42: Saved data stream

Save Print Image

The function Save print image allows you to store the last printed image as a .png file to an external storage device (SD card, USB memory module) installed on the printer.

1) Insert SD card or USB memory module.
2) Start menu.
3) Select Diagnostics > Save print image.
4) Select the external storage device.
5) Enter a file name.

   The predefined name is composed of the identifier “img”, date, clock time and the suffix “.png”, but may also be altered.

6) Confirm the selection. The .png file will be stored in the root of the storage device.

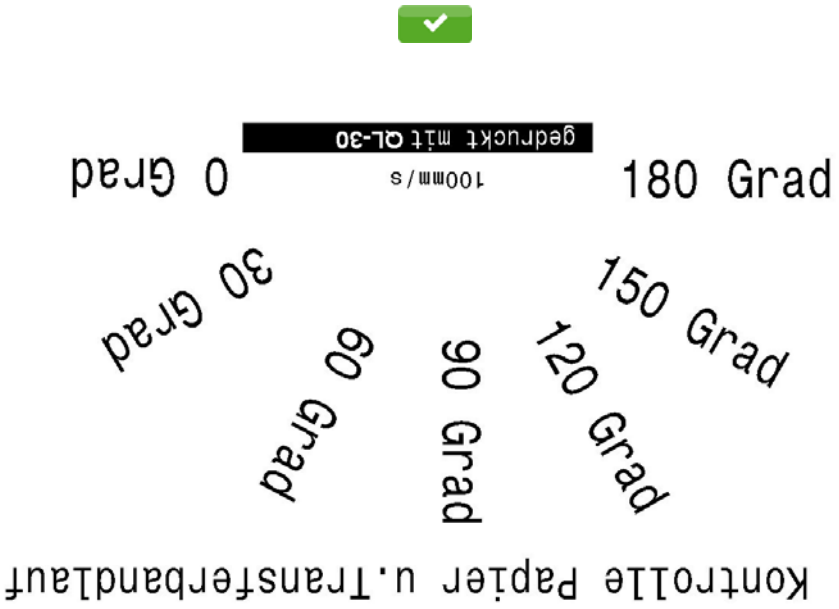


Figure 43: Saved print image

Save System Log

Note: *Access only with external storage device!*

The function Save system log allows you to store several system files packed to a .zip file to an external storage device (SD card, USB memory module) installed on the printer.

1) Insert SD card or USB memory module.
2) Start menu.
3) Select Diagnostics > Save system log.
4) Select the external storage device.
5) Enter a file name.

   The predefined name is composed of the identifier “sys”, date, clock time and the suffix “.png”, but may also be altered.

6) Confirm the selection. The display shows the several steps of saving.

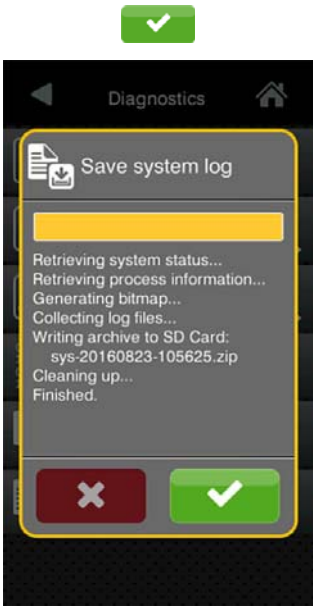


Figure 44: System log saving

7) Confirm the completion of saving. The .zip file will be stored in the root of the storage device.

15 Extras

Firmware Update

Note: *The firmware file can be obtained from the internet.*

Note: *Access only with external storage device!*

1) Copy the firmware file to the “misc” directory of the storage device. This can be done on a computer or via FTP on the printer.
2) Insert the prepared storage device into the printer.
3) Start menu.
4) Select Extras.

   If the menu is protected via a PIN, a prompt appears in the display. Enter the code number and confirm it.
5) Select Firmware update.

   The display shows the selection of external storage devices and the firmware files stored on the devices.
6) Select a file and confirm.
7) The selected firmware file is copied. A progress indicator is displayed while the firmware is being copied. After completion the printer will be re-started.

Note: *The firmware update also can be done via FTP printer management.* *See “FTP Firmware Update” on page 144.*

Save Settings

With the Save settings function the printer configuration can be saved to a storage device.

1) Start menu.
2) Select Extras.

   If the menu is protected via a PIN, a prompt appears in the display. Enter the code number and confirm it.
3) Select Save settings.
4) Select the external storage device.
5) Enter a file name.

   The predefined name is composed of the identifier “gui”, date, clock time and the suffix “.xml”, but may also be altered.

6) Confirm the selection. The .xml file will be stored in the folder /misc of the storage device.

An error message appearing during the saving procedure may be caused by an unreadable medium (e.g. unknown medium, unformatted medium). *See "Format Storage" on page 148.*

Load Settings

A printer configuration previously saved to a storage device can be loaded with the Load settings function.

1) Start menu.
2) Select Extras.

   If the menu is protected via a PIN, a prompt appears in the display. Enter the code number and confirm it.
3) Select Load settings.
4) Select the desired file.
5) Confirm the selection. Loading of the configuration data starts. Do not remove the USB flash drive until the loading procedure is complete. The printer returns to the Extras menu.

If an error occurs during the loading procedure, an error message appears in the display. Restart the loading procedure in this case. If an error occurs again, the configuration parameters must be entered via the control panel.

Reset Settings

With the Default settings function all setup parameters except the passwords can be reset to the default values. *See "Security" on page 77.*

1) Start menu.
2) Select Extras.

   If the menu is protected via a PIN, a prompt appears in the display. Enter the code number and confirm it.
3) Select Reset settings.

   The display shows "Reset settings".
4) Select Continue. The setup parameters will be reset and the printer returns to the Extras menu.

Reset Passwords

The function Reset passwords allows you to reset all passwords for the network services to the default values.

1) Start menu.
2) Select Extras.

   If the menu is protected via a PIN, a prompt appears in the display. Enter the code number and confirm it.
3) Select Reset passwords.

   The display shows “Reset passwords”.
4) Select Continue. The passwords will be reset and printer returns to the Extras menu.

Table 42: Default passwords

Function	User name	Password
Web interface access	admin	admin
FTP printing	ftpprint	print
FTP access to storage devices	ftpcard	card
FTP firmware update	ftpadmin	admin
Web service	soap	soap

Cleaning Interval

With the parameter Cleaning interval an interval for the printhead cleaning can be set in steps of 100 m media passage.

If the set length of the medium (label strip, transfer ribbon) has passed the printhead and an error occurs in the flow of the medium (e.g. label end, transfer ribbon end), the Clean printhead! message appears in the display.

The error message for the error which occurred is not displayed until the Clean printhead! message is acknowledged. As long as no errors occur in the medium flow, no messages are displayed and the print job is continued even if the cleaning interval has passed.

1) Start menu.
2) Select Extras.

   If the menu is protected via a PIN, a prompt appears in the display. Enter the code number and confirm it.

3) Select Cleaning interval.
4) Select a new value and confirm the selection.

Legal Notices

The Legal notices function shows the licenses and software libraries of third party solutions used in the printer firmware.

1) Start menu.
2) Select Extras.

   If the menu is protected via a PIN, a prompt appears in the display. Enter the code number and confirm it.
3) Select Legal notices.

   The notices will be shown on the display
4) Select Close to leave the notices.

16 Help

The Help menu contains video clips about important operations.

1) Start menu.
2) Select Help.

   A list of clips will be shown.
3) Select a clip.

   The playback of the clip will start.

Figure 45: Help video clip

The playback can be controlled by buttons:

Table 43: Buttons for playback control

Button	Description
	Leave current clip, return to clip selection
	Pause playback
	Start playback
	Stop playback, return to start

17 Service Functions

Reset Service Counter

Note: *Access only with service key inserted!*

The printer has total and service counters.

- Total counter: The total counter contains the values for the entire service life of the printer up to now. The values of the total counter are displayed in the Info menu and in the Status print.
- Service counter: The service counter can be reset after more substantial maintenance or repair work with the service key inserted. Here, it provides information on the printing output since the last reset. The values of the service counter are displayed in the Status print.

The following data is recorded in both counters:

Table 44: Total and service counter data

Data	Description
Operative time	Printer switch-on time
Number of labels	Number of labels printed
Transfer printing	Length of medium printed with transfer printing
Thermal printing	Length of medium printed with thermal direct printing

1) Insert service key into a USB host interface.
2) Start menu.
3) Select Service > Reset service counter.

   The display shows Reset service counter.
4) Select Continue. The data recorded by the service counter is set to the value 0.

The status print can be used to check whether the values were reset.

Calibrate Label Sensor

Note: *Access only with service key inserted!*

With the Calibrate label sensor function the label sensor can be adjusted. This is necessary if the sensor itself or CPU PCB has been changed.

1) Insert service key into a USB host interface.
2) Start menu.
3) Select Service > Calibrate label sensor.

   The display shows Remove labels.
4) Remove labels and transfer ribbon from the printer.
5) Select Continue.

   If the calibration was successful the message Sensor successfully calibrated appears.
6) Confirm the completion with Close.

Length Correction

Note: *Access only with service key inserted!*

The parameter Length correction allows you to eliminate deviations of the print length from the length set in the programming. The correction can be made in steps of 0.1%.

1) Start menu.
2) Select Service > Length correction.
3) Select new value and confirm.

Printer Model

Note: *Access only with service key inserted!*

With the Printer model function the firmware can be adapted to the device type.

1) Start menu.
2) Select Service > Printer Model.
3) Select a model.

Following the Info function, all test prints and the web interface show the selected printer model.

18 I/O Interface

For use in a network the printer is equipped with an I/O interface.

Pin Assignment

The interface has a 25 pin SUB-D connector.

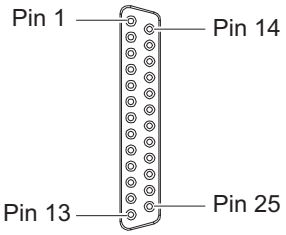


Figure 46: I/O interface

Note: *The function of the outputs on the pins 4, 9, 10, and 21 can be re-defined temporarily by direct programming (e.g. to control external devices with the user bits 0 to 3). Refer to the Programming Manual.*

Table 45: Pin assignment of the I/O interface

Pin	Signal	Name	Description	Activation / Active State
1	-	-	Do not use	
2	-	-	Do not use	
3	-	-	Do not use	
4	⊖→	FEEDON	Media transport ON Labels are fed by the printer	+24 V on Pin 4
		Bit 0	User Bit 0 is set	
5	-	-	Do not use	
6		GND_INT	Ground (0 V) for sensors or trigger switches	
7	-	-	Do not use	
8	-	-	Do not use	

Table 45: Pin assignment of the I/O interface (Continued)

Pin	Signal	Name	Description	Activation / Active State
9		JOBRDY	Print job ready Print jobs are stored in the print module.	+24 V on Pin 9
		Bit 1	User Bit 1 is set	
10		READY	Printer is ready	+24 V on Pin 10
		Bit 2	User Bit 2 is set	
11	-	-	Do not use	
12		REPRINT	The last printed label will be repeated.	+24 V between Pin 12 and Pin 25
13		START	Print start signal only for Print on demand = On	+24 V between Pin 13 and Pin 25
14		PAUSE	Pause ON/OFF	Pause ON when +24 V between Pin 14 and Pin 25
15		RIBWARN	Warning end of ribbon The ribbon supply roll diameter has undershot a predefined level	0 V on Pin 15
16		LBLREM	Label removed For peel-off mode only. Confirmation of the superior control that the label has been taken from the peel-off position. Required for the validity of a new start signal.	Switch on +24 V between Pin 16 and Pin 25
17		JOBDEL	Cancel print job The current print job is canceled and deleted from the print buffer.	Switch on +24 V between Pin 17 and Pin 25

Table 45: Pin assignment of the I/O interface (Continued)

Pin	Signal	Name	Description	Activation / Active State
18		RSTERR	Reset Error state of the printer will be reset.	Switch on +24 V between Pin 18 and Pin 25
19		P24_INT	Internal operating voltage +24 V, Si T 100mA for external consumers e.g. sensors, trigger switches	
20		P24_EXT	External operating voltage +24 V	
21		PEELPOS	Label in peel-off position For peel-off mode only. A label is in peel-off position.	+24 V on Pin 21
		Bit 3	User Bit 3 is set	
22		ERROR	General error message The operation will be stopped and the error type will be displayed.	0 V on Pin 22
23		STOP	Stop signal to interrupt the operation	Switch on +24 V between Pin 23 and Pin 25
24	-	-	Do not use	
25		GND_EXT	Ground of the external 24 V	

Circuit Diagram of Inputs and Outputs

Digital Inputs	Digital Outputs
• Conform to IEC/EN 61131-2 (Type 3) • Operating voltage: 24 V DC (9,6..35 V) • Switching logic: PNP switching • Low level “0”: < 7 V DC • High level “1”: > 11 V DC • Input current per channel: 1,5..2,5 mA (at 24 V DC) • Reverse polarity protection: yes • ESD protection: conform to IEC/EN 6100-4-4	• Conform to IEC/EN 61131-2 • Operating voltage: 24 V DC (11..35 V) • Switching logic: PNP switching • Output current per channel: 625 mA (overload protection) • Short-circuit protection: yes • Reverse polarity protection: yes • ESD protection: conform to IEC/EN 6100-4-4

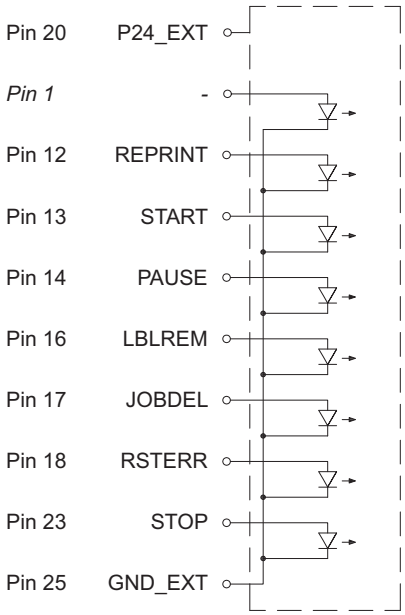


Figure 47: Connecting inputs

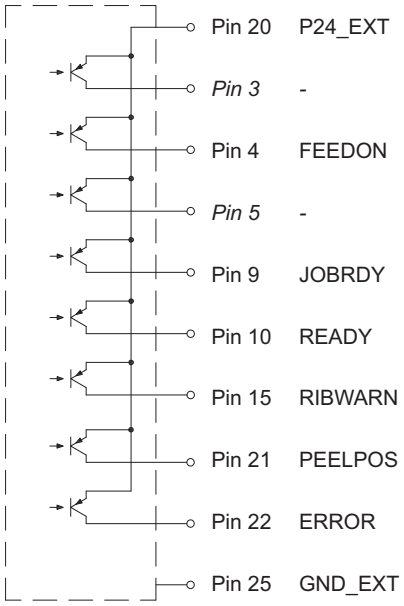


Figure 48: Connecting outputs

Solution Examples

Peeling-off on Demand with Present Sensor PS800 / PS900

In the standard peel-off mode a label will be printed immediately after the previous label has been taken from the peel position.

Using the I/O interface the print of the next label can be triggered by an external signal.

Requirements:

- Operation with Present Sensor PS800 or PS900
- External circuit as shown in Figure 49 / Figure 50
- Setting Printing > Print on Demand = “On”.

Operation:

1) Send a print job.
2) Activate START.

   The first label will be printed and transported to the peel position.
3) Remove the label.

4) Activate START to start the next cycle.

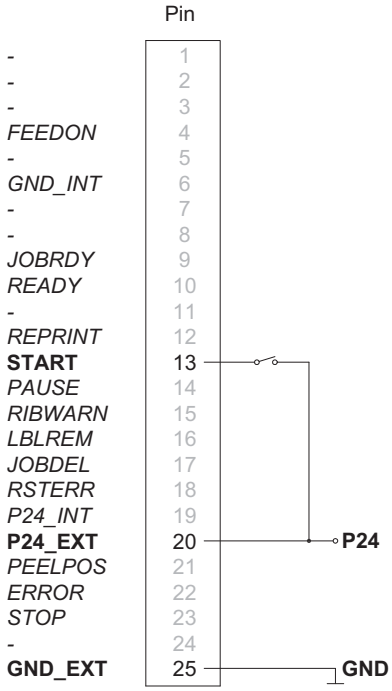


Figure 49: Operation with external voltage supply

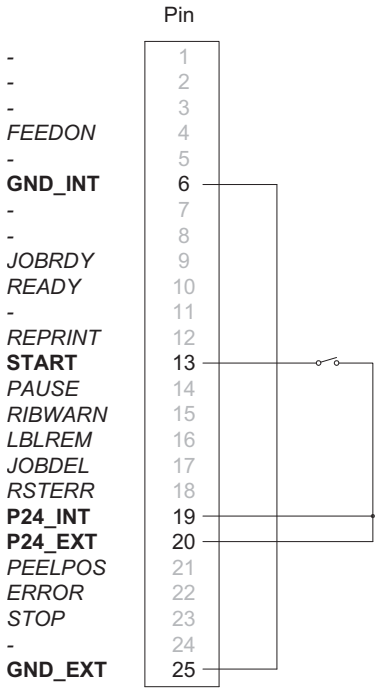


Figure 50: Operation using the internal voltage

Peeling-off on Demand without Present Sensor

In the peel-off mode with PS800 or PS900 the label removal from the peel position is detected by an optical sensor.

Using the I/O interface the label removal can be confirmed by the external signal LBLREM. That way it is possible to operate the printer in peel-off mode without present sensor.

Starting Print and Confirming Label Removal with Two Signals

Requirements:

- Operation without present sensor.
- External circuit as shown in Figure 51 / Figure 52
- Setting Printing > Print on Demand = “On”.
- Setting Interfaces > I/O > Automatic LBLREM = “Off”

Operation:

1) Send a print job.
2) Activate START.

   The first label will be printed an transported to the peel position.
3) Remove the label.
4) Confirm the label removal with signal LBLREM.

5) Activate START to start the next cycle.

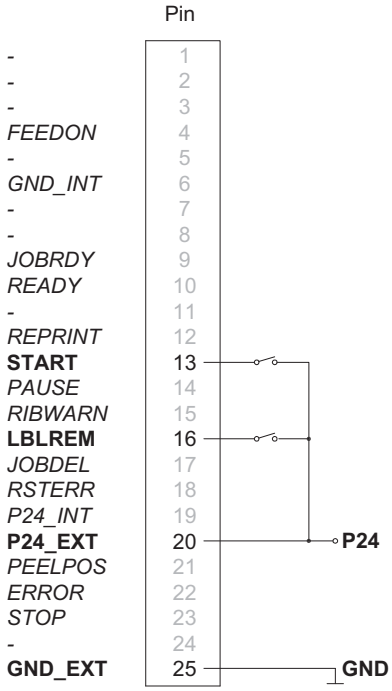


Figure 51: Operation with external voltage supply

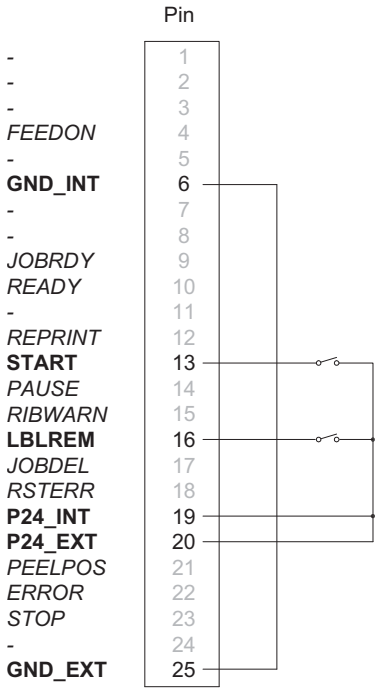


Figure 52: Operation using the internal voltage

Starting Print and Confirming Label Removal with Signal LBLREM

Requirements:

- Operation without present sensor.
- External circuit as shown in Figure 53 / Figure 54
- Setting Printing > Print on Demand = “On”.
- Setting Interfaces > I/O > START mode = “Level”.
- Setting Interfaces > I/O > Automatic LBLREM = “Off”.

Operation:

1) Hold signal START permanently active.
2) Send a print job.

   The first label will be printed and transported to the peel position.
3) Remove the label.
4) Confirm the label removal with signal LBLREM.

The next cycle will be started.

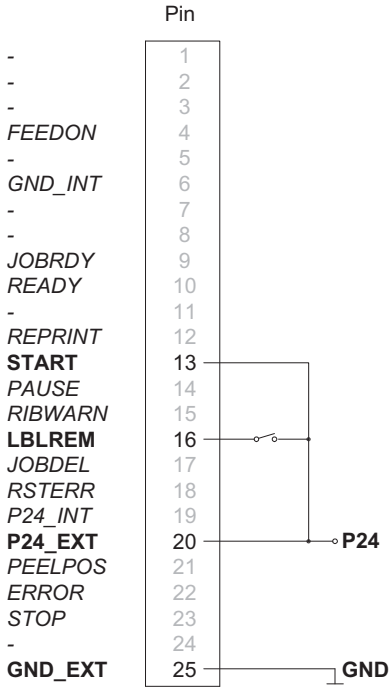


Figure 53: Operation with external voltage supply

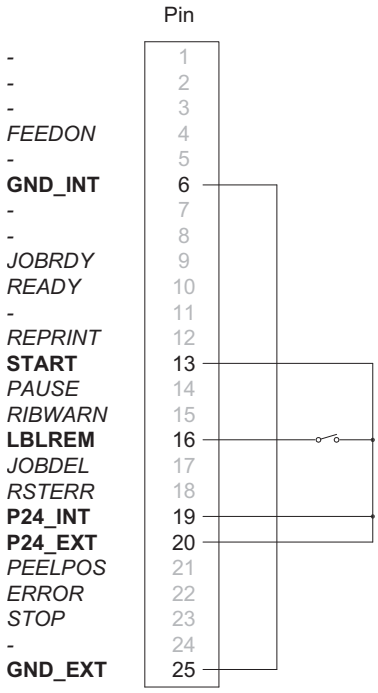


Figure 54: Operation using the internal voltage

Starting Print and Confirming Label Removal with Signal START

Requirements:

- Operation without present sensor.
- External circuit as shown in Figure 55 / Figure 56
- Setting Printing > Print on Demand = “On”.
- Setting Interfaces > I/O > START mode = “Level”.
- Setting Interfaces > I/O > Automatic LBLREM = “On”.

Operation:

1) Send a print job.
2) Activate START and hold it active.

   The first label will be printed an transported to the peel position.
3) Remove the label.
4) Confirm the label removal with deactivation of START.

5) Activate START again to start the next cycle.

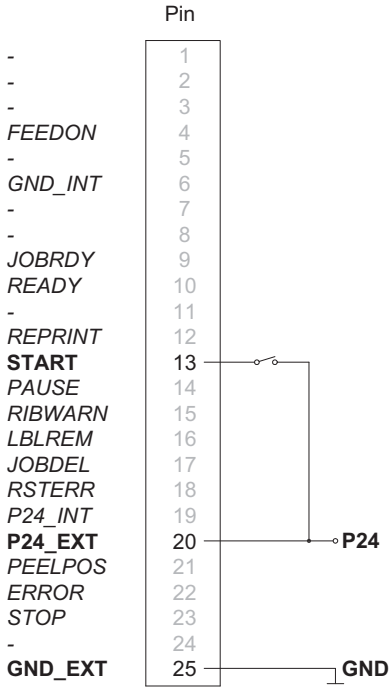


Figure 55: Operation with external voltage supply

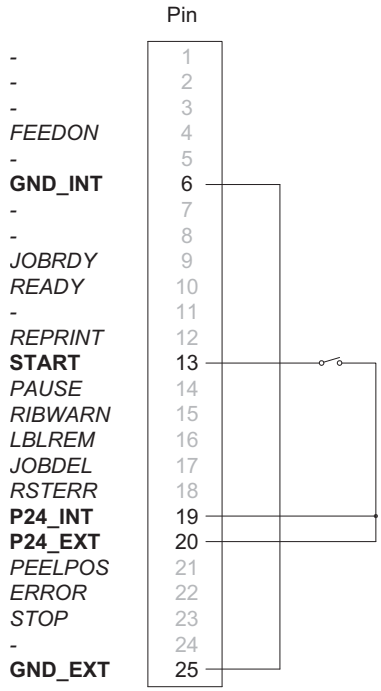


Figure 56: Operation using the internal voltage

Cutting on Demand with Cutter CU400

In the standard cut mode all labels of a print job will be printed and cut one after another without interruption. Using the I/O interface the print job can be split into single steps with printing and cutting each one label.

Requirements:

- Operation with Cutter CU400.
- External circuit as shown in Figure 57 / Figure 58
- Setting Printing > Print on Demand = “On”.

Operation:

1) Send a print job.
2) Activate START.

   The first label will be printed and cut.

3) Activate START to start the next cycle.

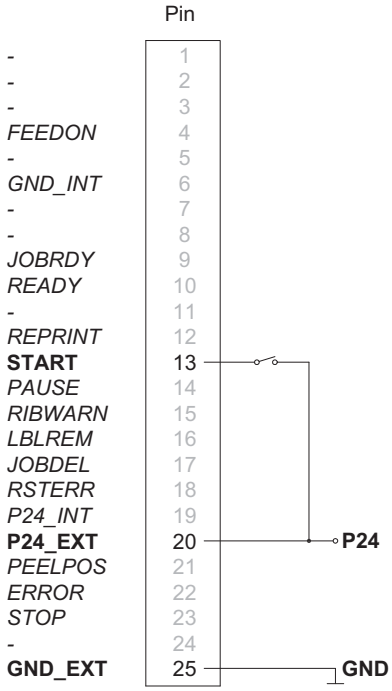


Figure 57: Operation with external voltage supply

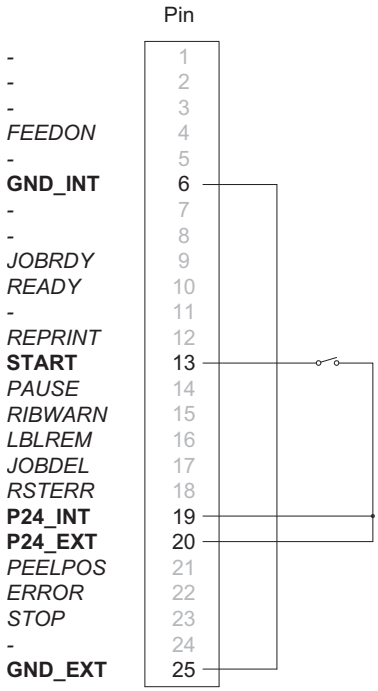


Figure 58: Operation using the internal voltage

Note: *The function of the signal START can be released alternatively by pressing on the touchscreen display.*

Pausing and Continuing a Print Job

In the standard operation without a peripheral device connected all labels of a print job will be printed without interruption.

To adapt the label output of the printer (e.g. to an external device with a lower transport speed) the print job can be interrupted.

Requirements:

- Operation without peripheral device.
- External circuit as shown in Figure 59 / Figure 60
- Setting Printing > Print on Demand = “Off”.

Operation:

1) Send a print job.

   The labels of the print job will be printed one after the other.

2) Activate the signal PAUSE.

   After completion of the current label the print job will be paused.

3) Deactivate the signal PAUSE.

The print job will be continued.

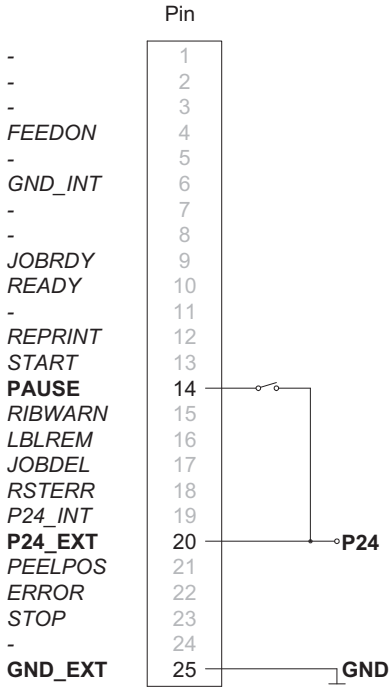


Figure 59: Operation with external voltage supply

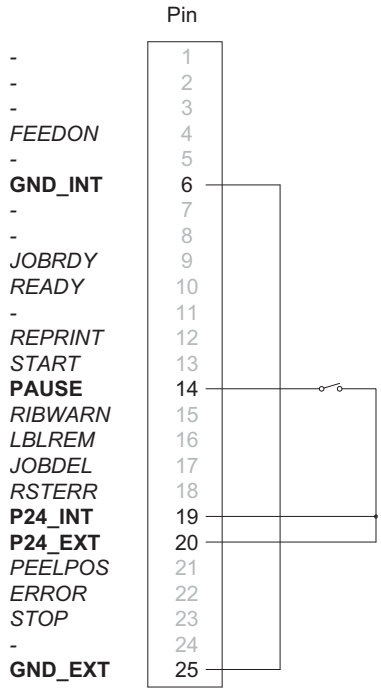


Figure 60: Operation using the internal voltage

19 FTP Printer Management

The File Transfer Protocol (FTP) allows you to manage and transfer files on the network via the Ethernet interface or WLAN card. An FTP program (FTP client) is required which supports the “binary” transfer mode to manage the printer. The printer functions as an FTP server.

FTP printer management is comprised of four functions:

- Direct printing via copying JScript or ZPL files
- Management of the memory media installed in the label printer
- IFFS management
- Firmware update

FTP Login

To establish an FTP connection, the client must be logged on to the server. The login type depends on the client. The following information must be specified in any case, however:

- IP address of the label printer
- User name and password

Access to the printer management functions depends on the user name:

Table 46: Default passwords

Function	User name	Default password
FTP printing, loading PPP vouchers	ftpprint	print
FTP access to storage devices	ftpcard	card
FTP firmware update	ftpadmin	admin

Note: *The passwords can be changed in the “Setup” tab of the web interface.* *See “Setup Tab” on page 97.*

After logging on the FTP server is accessible in a manner similar to a Windows folder.

FTP Printing

Label files in JScript format (see Programming Manual) or in ZPL format can be printed directly via FTP connection:

1) Establish an FTP connection with the user name ftpprint and the defined password (Default: print)

An empty folder of the FTP server will be shown.

2) Copy a label file in JScript or ZPL format to the folder of the FTP server.

   Printing of the label file is started immediately. The corresponding file is deleted once the print job is complete.

3) Close the FTP connection.

FTP Access to Storage Devices

FTP connection allows you to manage data of a storage device:

1) Establish an FTP connection with the user name ftpcard and the defined password (Default: card).

   The content of the storage device will be shown. The files are separated into several sub folders.

2) Manage the files as necessary. When copying files to the folder, type-based sorting occurs automatically in the sub folders.

3) Close the FTP connection.

FTP Firmware Update

FTP allows you to carry out a firmware update:

1) Establish an FTP connection with the user name ftpadmin and the defined password (Default: admin).

   An empty folder of the FTP server will be shown.

2) Copy a valid firmware file (e.g. 500_6714.cfw) to the folder.

   The status of the saving procedure is shown by a progress indicator in the display. The printer resets automatically after the update is carried out successfully.

3) Close the FTP connection.

Whether the firmware update was carried out successfully can be checked on the “Status” tab of the web interface.

20 Storage Devices

Label descriptions, graphics, fonts, and database information can be saved for the long-term on memory media.

Note: *Always create a backup copy of external devices in case of a malfunction.*

Suitable Storage Devices

External Devices

- USB flash drive at USB host interface
- SD cards

Internal Device

- approx. 50 MB flash memory inside the printer (Internal Flash File System IFFS)

Installation

Note: *For external storage devices only!*

- Slide SD card contact-side first into the matching slot until it latches. To unlatch SD card press it shortly into the slot and remove it.

  or

- Connect USB flash drive to a USB host interface.

Attention: *Risk of data loss! Do not remove the storage device while it is being accessed.*

Directory Structure

On storage devices connected to the printer, the following directory structure is automatically generated when uploading files:

Table 47: Directory structure

Folder name	Contents
fonts	Font files
images	Graphic files
labels	Label description files
misc	Firmware, PPP, Setup and TMP files

Writing

The storage devices can be written to in several ways. The most functionally secure way is writing to the storage device via a data interface.

Note: *The device selected as Default storage is written to by default. To write to another device specify the path name of the device in the file name (see Programming Manual).*

Example

With direct programming, the command sequence for saving a label (file XYZ) has the following form:

```
Ms LBL; XYZ                 Command for saving the file XYZ
J                           |
H 100,0,T                   |
S l1;0,0,68,71,104          | Contents of the file XYZ
T 10,10,0,3,pt15;memory card |
A 1[NOPRINT]                |
Ms LBL                      End of save command
```

- After transfer of the command sequence, the file XYZ is saved with the commands from J to A.
- Only one label is printed each time the file XYZ is called up.
- The [NOPRINT] parameter in command A suppresses the printing of a label when the file is saved.
- To print the label a variable number of times, use command A [?].

Storage Device Functions

Load Label

Labels whose descriptions are saved on the storage device can be printed using the Load label function.

1) Start menu.
2) Select Storage > Load label.

   The display shows the selection of external storage devices and the label files stored on the devices.
3) Select a label and confirm.

   If a label is selected which was saved with a fixed contents and fixed label quantity, the print job is started immediately.

If additional input on the label description is required, the display requests to enter the variable data. For label descriptions with a variable label quantity, a prompt to enter the label quantity is displayed.

4) Enter the label quantity/variable data and select to start the print job.

Print File List

The Print file list function creates a list of the files stored on the default storage device.

1) Insert printable medium (labels, continuous media) which extends across the entire printing width.
2) If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
3) Start menu.
4) Select Storage > Print file list.

   The display shows the selection of storage devices.
5) Select a storage device and confirm.

   The directory of the storage device will be printed.

Contents of the printout:

- the name of the storage device
- information on the saved files
- the size of the available memory area

Copy Files

With the Copy files function files can be copied from one storage device to another storage device.

1) Insert the storage devices.
2) Start menu.
3) Select Storage > Copy files.

   Under the headline Source the selection of storage devices will be shown.
4) Select source device.
5) Select a folder.
6) Select files. One single file or all files (*.*) of the folder can be selected.
7) Confirm the selection.

Under the headline Destination the selection of storage devices will be shown again.

8) Select destination device and folder.

9) Confirm the selection.

   The files are copied. The display shows the message “Copied ... file(s) to [Destination]”

10) Select Continue to return to the Storage menu.

Format Storage

The Format function can be used to delete all data from a storage device. This reformats the storage device. You can also use the Format function if the Unknown card error message appears when using the device.

1) Insert storage device.

2) Start menu.

3) Select Storage > Format storage.

   If the function is protected via a PIN, a prompt appears in the display. Enter the code number and confirm with OK. The display shows the selection of storage devices.

4) Select a storage device and confirm the selection.

   The display shows the message All data on the selected device will be lost.

5) Select Continue. The storage device will be formatted.

   Do not remove the device from the printer during the deleting procedure. The printer returns to the Storage menu.

Default Storage

With the parameter Default storage Definition the storage device can be defined, which can be operated via interfaces and FTP printer management.

At functions started from the printer display all storage devices are accessible, but the default storage will be offered first.

1) Start menu.

2) Select Storage > Default storage.

   The display shows the selection of storage devices.

3) Select a storage device and confirm the selection.

21 Remote Access via VNC

Note: *For the remote access via VNC the firmware version 5.03 or later must be installed.*

VNC is software that allows remote control of a printer's operation control panel (server) via a computer (client) through input devices like keyboard and mouse.

VNC is not platform dependent and enables the use of a Windows computer as well as a mobile Android or iOS system as an external remote control. The prerequisite for this is the installation of a VNC client on the system used.

Preparing the Computer

1) Install the VNC client on the computer.

Preparing the Printer

1) Activate the VNC server under Setup > Interfaces > Network services > VNC server.
2) Enter password vnc under Security > Password VNC.

For Wireless Access:

1) Activate WLAN under Setup > Interfaces > WLAN > WLAN.
2) Find out the WLAN-IP-Address under Info.

For Ethernet Access:

1) Find out the Ethernet-IP-Address under Info.

Establishing a Connection

1) Start the VNC client on the computer.
2) Enter the IP address and password vnc in the configuration of the VNC client.
3) Activate the connection.

   The menu of the printer will be visible and usable via mouse click, keyboard or touch-pad just like on the printer itself.

22 External Keyboard

An external keyboard or a compatible input device (e.g. barcode scanner) can be connected directly to the printer. Using an external keyboard facilitates the entry of variable data while processing print jobs and printing from storage devices.

Input prompts and the data received from the keyboard are shown in the display.

Connecting External Keyboard

Any HID compatible USB keyboard can be connected to the printer.

Insert connection cable of the keyboard into a USB host interface of the printer.

Keyboard Assignment

If necessary set the parameter Setup > Region > Keyboard matching to the used keyboard.

Note: *If the parameter Keyboard is set to Automatic, the keyboard assignment will be defined by the setting of the parameter Country.*

The following Country settings have special keyboard assignment:

Table 48: Special assignments Country - Keyboard

Country	Keyboard
China	USA
South Africa	USA
Taiwan	USA
Mexico	Latin America
Egypt	Arabic

For the following Keyboard settings can be switched between two assignments by pressing the CTRL key and the SHIFT key:

Table 49: Keyboard settings with double assignment

Keyboard	First assignment	Second assignment
Bulgaria	Latin	Cyrillic
Greece	Latin	Greek
Iran	Latin	Persian

Table 49: Keyboard settings with double assignment (Continued)

Keyboard	First assignment	Second assignment
Macedonia	Latin	Cyrillic
Russia	Latin	Cyrillic
Thailand	Latin	Thai
Arabic	Latin	Arabic

Special Key Functions

General

Table 50: Special key functions: general

[F1]	Executes the Load label storage device function.
[F2]	Prints an additional label from the last print job. Corresponds to: 
[F3]	Repeats the last print job with renewed polling of the variable data and polling of the label quantity.
[F8]	Functions like: 
[Enter]	Starts menu
[Esc]	Functions like: 
[Space]	Functions like: 

In the menu and for entry of variable data

Table 51: Special key functions: Menu and data input

[Enter]	Confirms the input.
[Esc]	Cancels the input and returns.
[Shift][Entf]	Clears the input line.

Attention: *When using a scanner operated as keyboard emulation ensure that the same character set is set for both the scanner and the printer.*

23 Firmware Updater

The Firmware Updater, which can be downloaded from the QuickLabel website, offers an easy way to transfer firmware files from the computer to the printer.

With the Firmware Updater it is possible to start a firmware update via USB, Ethernet or serial interface:

1) Start the Firmware Updater.
2) Select the printer model.
3) Select the interface (Port).
4) Choose “Firmware”.
5) Locate the firmware file and select it.
6) Click “Update”.

   The selected file will be uploaded to the printer. The firmware update will be started automatically.

Index