valentin
DRUCKSYSTEME

SPE

Operating Manual

Quality . Tradition . Innovation

Information on the scope of delivery, appearance, performance, dimensions and weight reflect our knowledge at the time of printing.

We reserve the rights to make modifications.

Due to the constant further development of our devices discrepancies between manual and device can occur.
Please check www.carl-valentin.de for the latest update.

Trademarks

All named brands or trademarks are registered brands or registered trademarks of their respective owners and may not be separately labelled. It must not be concluded from the missing labelling that it is not a registered brand or a registered trademark.

Carl Valentin print modules comply with the following safety guidelines:

CE EG Low-Voltage Directive (73/32/EEC)
EG Electromagnetic Compatibility Directive (89/336/EEC)

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1 Important notes

The print module can be used in thermal as well as in thermal transfer applications.

The print module is equipped with 8 vector, 6 bitmap and 6 proportional fonts. It can be printed inverse, in italic format or 90 degrees turned fonts.

The handling of our durable print module is easy and comfortable. The device settings are made with the keys of the foil keyboard. At each time the two-line display shows the current status.

By the use of a 32 Bit processor and a large main memory of 4MB also for large labels (optional up to a length of 3000 mm) a large print is possible.

An enormously high print quality is obtained by most modern printhead technology.

By a new-developed electronics a maximum print speed of up to 300 mm/s can be achieved. Time-saving update of the firmware is possible via the interface. The print module can be adapted by the large selection of options to each function.

As default, print modules of this series are equipped with a parallel and serial interface. The print module automatically recognizes by which interface it is controlled.

Time-saving update is possible by interface.

Thanks to the large number of options the print module can be adapted to each task.

1.1 Intended use

The print module is a state-of-the-art device which complies with the recognized safety-related rules and regulations. Despite this, a danger to life and limb of the user or third parties could arise and the print module or other property could be damaged while operating the device.

The print module may only be used while in proper working order and for the intended purpose. Users must be safe, aware of potential dangers and must comply with the operating instructions. Faults, in particular those which affect safety, must be remedied immediately.

The print module is solely intended to print suitable media which have been approved by the manufacturer. Any other or additional use is not intended. The manufacturer/supplier is not liable for damage resulting from misuse. Any misuse is at your own risk.

Intended used includes heeding the operating manual, including the maintenance recommendations/regulations specified by the manufacturer.

1.2 Environmentally-friendly disposal

Manufacturers of B2B equipment are obliged to take back and dispose of old equipment that was manufactured after 13 August 2005. As a principle, this old equipment may not be delivered to communal collecting points. It may only be organised, used and disposed of by the manufacturer. Valentin products accordingly labelled can therefore be returned to Carl Valentin GmbH.

This way, you can be sure your old equipment will be disposed of correctly.

Carl Valentin GmbH thereby fulfils all obligations regarding timely disposal of old equipment and facilitates the smooth reselling of these products. Please understand that we can only take back equipment that is sent free of carriage charges.

Further information on the WEEE directive is available on our website www.carl-valentin.de.

1.3 Connector pin assignment

Control unit

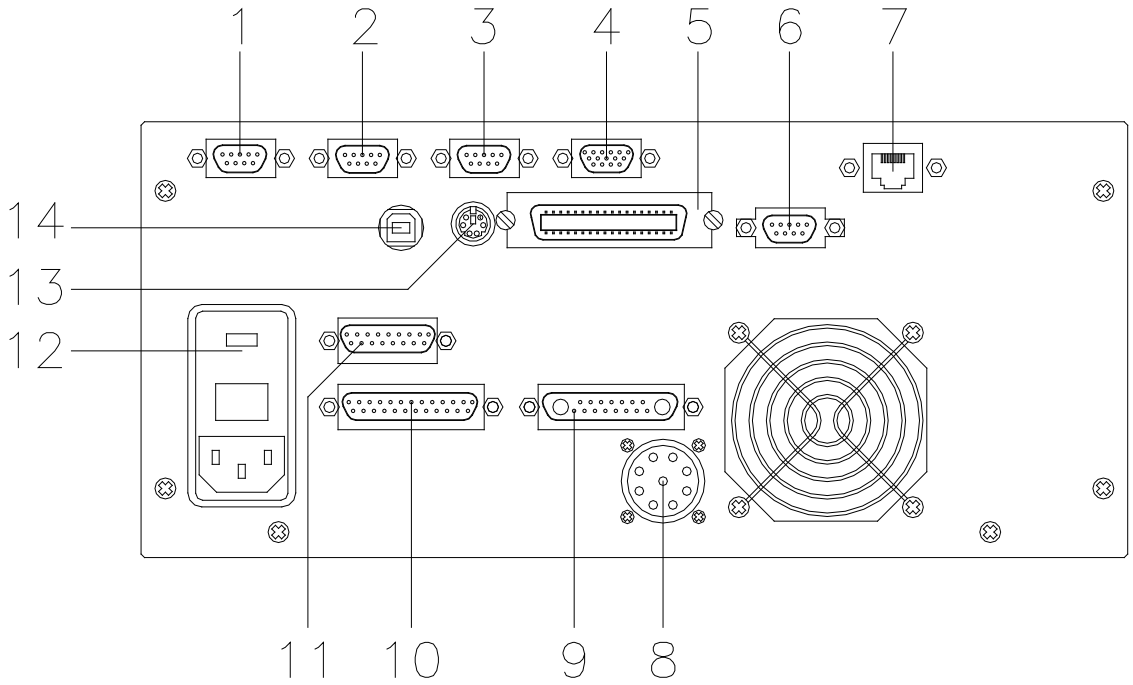


Figure 1

1 =	External output 1-4 (Output I)	
2 =	External input 1-4 (Input I)	
3 =	External output 5-8 (Output II)	
4 =	Version I	Version II
	SUB-D plug 9-pin External input 5-8 see chapter 3.1	SUB-D plug 15-pin External bushing I/O-24 see chapter 3.2
5 =	Centronics interface	
6 =	RS-232 interface	
7 =	Ethernet interface (option)	
8 =	Connecting cable power	
9 =	Connecting cable motor	
10 =	Connecting cable signal	
11 =	Connecting cable sensors	
12 =	Power supply	
13 =	PS/2 keyboard connection	
14 =	USB interface	

Rear panel of mechanics

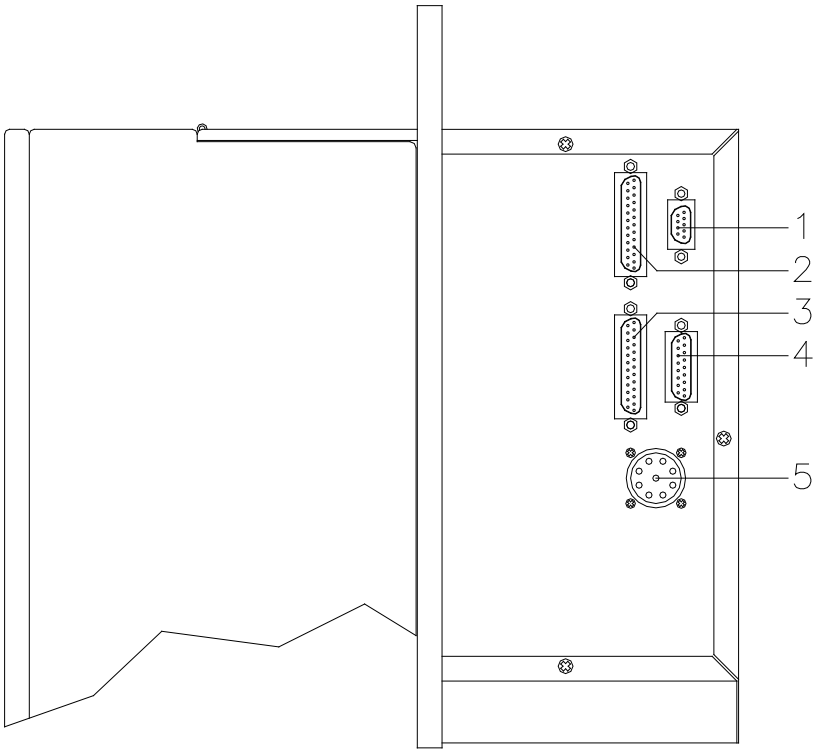


Figure 2

1 = Connection for winder
2 = Motors
3 = Printhead signal
4 = Sensors
5 = Printhead power

2 Safety notes

The print module is designed for power supply systems from 230 V. Connect the print module only to electrical outlets with a ground contact.

Couple the print module to devices using extra low voltage only.

Before making or undoing connections, switch off all devices involved (computer, printer, accessories etc.).

Operate the print module in a dry environment only and do not get it wet (sprayed water, mist etc.).

Do not operate the print module in explosive atmosphere and not in proximity of high voltage power lines.

Operate the print module only in an environment protected against abrasive dust, swarf and other similar impurity.

In case of cleaning and maintenance with an open cover, ensure that clothing, hair, jewellery and similar personal items do not contact the exposed rotating parts.

NOTICE!

With the open printing unit (due to construction) the requirements of EN60950-1 regarding fire protection casing are not fulfilled. These must be ensured by the installation into the end device.

The print unit can get hot during printing. Do not touch the printhead during operation. Cool down the print unit before changing material, removal or adjustment.

Carry out only the actions described in these operating instructions. Any work beyond this may only be performed by the manufacturer or upon agreement with the manufacturer.

Unauthorized interference with electronic modules or their software can cause malfunctions.

Other unauthorized work or modifications to the direct print module can 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 warning stickers on the direct print modules that draw your attention to dangers. Therefore the warning stickers are not to be removed as then you and others cannot be aware of dangers and may be injured.

The print module must be integrated with the Emergency Stop circuit when it is incorporated into the overall machine.

All isolating safety equipment must be installed before starting-up the machine.

DANGER!

Danger to life and limb from power supply!

⇒ Do not open the casing.

2.1 Warnings

Warnings are presented with three signal words for the different levels of danger.

DANGER identifies an extraordinarily great and immediate danger which could lead to serious injury or even death.

WARNING identifies a possible danger would could lead to serious bodily injury or even death if sufficient precautions are not taken.

CAUTION indicates a potentially dangerous situation which could lead to moderate or light bodily injury or damage to property.

2.2 Operating conditions

Before initial operation and during operation these operating conditions have to be observed to guarantee save and interference-free service of our print modules.

Therefore please carefully read these operating conditions.

Shipment and storage of our print modules are **only** allowed in original packing.

Installation and initial operation of print module is only allowed if operating conditions were **fulfilled**.

Commissioning is prohibited until it can be established that, where relevant, the machine into which the partly completed machinery is to be incorporated complies with the provisions of Machinery Directive 2006/42/EC.

Initial operation, programming, operation, cleaning and service of our print modules are only recommended after careful study of our manuals.

Operation of print module is only allowed by especially trained persons.

NOTICE!

Perform trainings regularly.
Content of the training are chapter 2.2 (Operating conditions), chapter 5 (Loading media) and chapter 10 (Maintenance and cleaning).

These indications are also valid for someone else's equipment supplied by us.

Only use original spare and exchange parts.

Please contact the manufacturer with respect to spare/wear parts.

Instructions for lithium battery

CPU of print module is equipped with a lithium battery (type CR 2032) for which the battery regulation is to apply. This regulation plans that unloaded batteries have to be given to used battery collecting containers of trade and public carries. In case that batteries were not completely discharged you have to make arrangements for short-circuits. At a shutdown of print module the battery has to be disposed in either case separately from print module.

DANGER!

Danger of life by explosion!

⇒ Use nonconducting tools.

Conditions for installation place

The installation place of print module should be even, free of vibration and currents of air are to be avoided.

The print modules have to be installed to ensure optimal operation and servicing.

Installation of power supply

The installation of the power supply to connect our print modules has to be effected according to the international rules and regulations, especially the recommendations of one of the three following commissions:

- International Electronic Commission (IEC)
- European Committee for Electro technical Standardisation (CENELEC)
- Verband Deutscher Elektrotechniker (VDE)

Our print modules are constructed according to VDE and have to be connected to a grounded conductor. The power supply has to be equipped with a grounded conductor to eliminate internal interfering voltage.

Technical data of power supply

Power line voltage and power line frequency: See type plate

Allowable tolerance of power line voltage: +6% … −10% of nominal value

Allowable tolerance of power line frequency: +2% … −2% of nominal value

Allowable distortion factor of power line voltage: <=5%

Anti-Interference measures

In case your net is infected (e.g. by using thyristor controlled machines) anti-interference measures have to be taken. You can use one of the following possibilities:

- Provide separate power supply to our print modules.
- In case of problems please connect capacity-decoupled isolation transformer or similar interference suppressor in front of our print modules.

Stray radiation and immunity from disturbance

Emitted interference according to EN 61000-6-4: 08-2002

- Interference voltage to wires according to EN 55022: 09-2003
- Interference field power according to EN 55022: 09-2003

Immunity to interference according to EN 61000-6-2: 03-2006

- Stray radiation against discharge of static electricity according to EN 61000-4-2: 12-2001
- Electromagnetic fields according to EN 61000-4-3: 11-2003
- Fast transient burst according to EN 61000-4-4: 07-2005
- Surge according to EN 61000-4-5: 12-2001
- High-frequency tension according to EN 61000-4-6: 12-2001
- Voltage interruption and voltage drop according to EN 61000-4-11: 02-2005

NOTICE!

This is a machine of type A. This machine can cause interferences in residential areas; in this case it can be required from operator to accomplish appropriate measures and be responsible for it.

Machine safety

- EN 415-2 - Safety of pachaging machines
- EN 60204-1:2006 - Safety of machinery - Electrical equipment of machines - Part 1

Connecting lines to external machines

All connecting lines have to be guided in shielded lines. Shielding has to be connected on both sides to the corner shell.

It is not allowed to guide lines parallel to power lines. If a parallel guiding cannot be avoided a distance of at least 0.5 m has to be observed.

Temperature of lines between: −15 … +80 °C.

It is only allowed to connect devices which fulfil the request 'Safety Extra Low Voltage' (SELV). These are generally devices which are checked corresponding to EN 60950.

Installation of data lines

The data cables must be completely protected and provide with metal or metallised connector housings. Shielded cables and connectors are necessary, in order to avoid radiant emittance and receipt of electrical disturbances.

Allowable lines	
Shielded line:	4 x 2 x 0,14 mm² (4 x 2 x AWG 26) 6 x 2 x 0,14 mm² (6 x 2 x AWG 26) 12 x 2 x 0,14 mm² (12 x 2 x AWG 26)

Sending and receiving lines have to be twisted in pairs.

Maximum line length:	with interface V 24 (RS-232C) - 3 m (with shielding)
	with Centronics - 3 m (with shielding)
	with USB - 3 m
	with Ethernet - 100 m

Air convection

To avoid inadmissible heating, free air convection has to be ensured.

Limit values

Protection according IP: 20

Ambient temperature °C (operation): Min. +5 Max. +40

Ambient temperature °C (transport, storage): Min. −25 Max. +60

Relative air humidity % (operation): Max. 80

Relative air humidity % (transport, storage): Max. 80
(bedewing of print modules not allowed)

Guarantee

We do not take any responsibility for damage caused by:

- Ignoring our operating conditions and operating manual.
- Incorrect electric installation of environment.
- Building alterations of our print modules.
- Incorrect programming and operation.
- Not performed data protection.
- Using of not original spare parts and accessories.
- Natural wear and tear.

When (re)installing or programming our print modules please control the new settings by test running and test printing. Herewith you avoid faulty results, reports and evaluation.

Only specially trained staff is allowed to operate the print modules.

Control the correct handling of our products and repeat training.

We do not guarantee that all features described in this manual exist in all models. Caused by our efforts to continue further development and improvement, technical data might change without notice.

By further developments or regulations of the country illustrations and examples shown in the manual can be different from the delivered model.

Please pay attention to the information about admissible print media and the notes to the print module maintenance, in order to avoid damages or premature wear.

We endeavoured to write this manual in an understandable form to give and you as much as possible information. If you have any queries or if you discover errors, please inform us to give us the possibility to correct and improve our manual.

3 Technical Data

	SPE 104/8	SPE 106/12	SPE 107/12	SPE 108/12	SPE 160/12	SPE 162/12
Print Resolution	203 dpi	300 dpi	305 dpi	300 dpi	305 dpi	300 dpi
Max. Print Speed	200 mm/s	200 mm/s	300 mm/s	300 mm/s	200 mm/s	150 mm/s
Print Width	104 mm	106,6 mm	106,6 mm	108,4 mm	160 mm	162,2 mm
Passage Width	116 mm	116 mm	116 mm	116 mm	176 mm	176 mm
Printhead	FlatType	FlatType	CornerType	FlatType	CornerType	FlatType
Labels						
Adhesive Labels or Continuous Material	on rolls : paper, cardboard, textile, synthetics					
Max. Material Weight	220 g/m² (larger on demand)					
Min. Label Width	25 mm	25 mm	25 mm	25 mm	50 mm	50 mm
Min. Label Height	15 mm	15 mm	15 mm	15 mm	15 mm	15 mm
Max. Label Heigh						
Standard	1900 mm	1200 mm	1200 mm	1200 mm	800 mm	800 mm
Option Ethernet	1700 mm	1100 mm	1100 mm	1100 mm	700 mm	700 mm
Label Sensor	transmission					
Transfer Ribbon						
Ink	outside/inside					
Max. Roll Diameter	Ø 90 mm					
Core Diameter	25,4 mm / 1″					
Max. Length	600 m					
Max. Width	110 mm	110 mm	110 mm	110 mm	170 mm	170 mm
Dimensions in mm (width x height x depth)						
Print Mechanics H = 300 / D = 245	300 x H x D	300 x H x D	300 x H x D	300 x H x D	360 x H x D	360 x H x D
Control Unit	285x140x360					
Weight in kg						
Print Mechanics	11	11	11	11	12	12
Control Unit	9	9	9	9	9	9
Electronics						
Processor	RISC					
RAM	4 MB					
Slot	for Compact Flash carte type I					
Battery Cache	for Real-Time clock (storage of data with shut-down)					
Warning Signal	Acoustic signal when error					
Interfaces						
Serial	RS-232C (up to 57600 Baud), RS-422 + RS-485 (option)					
Parallel	Centronics					
USB	1.1					
Ethernet	10/100 Base-T (option)					
Operating Conditions						
Nominal Voltage						
Standard	230 V / 50…60 Hz					
Option	115 V / 50…60 Hz					
Max. Power	360 VA					
Fuse Values	230 V – 3,15 AT / 115 V – 6,3 AT					
Operating Temperature	5 … 40 °C					
Humidity	max. 80% (not condensing)					

Operation Panel	SPE 104/8	SPE 106/12	SPE 107/12	SPE 108/12	SPE 160/12	SPE 162/12
Keys	Test print, function menu, quantity, CF Card, feed, enter, 4 x cursor					
LCD Display	Graphic display 132 x 32 pixel with green backlight					
Settings						
	Date, time, shift times 11 language settings (others on demand) Label and device parameters, interfaces, password protection, variables					
Monitoring						
Stop printing if	End of ribbon, end of labels, printhead open					
Status report	Extensive status print with information about settings e.g. print length counter, runtime counter, photocell interface and network parameters Printout of all internal fonts and all supported bar codes					
Fonts						
Font types	6 Bitmap fonts 8 Vector fonts/TrueType fonts, 6 proportional fonts Other fonts on demand					
Character sets	Windows 1250 up to1257, DOS 437, 850, 852, 857, UTF-8 All West and East European Latin, Cyrillic, Greek and Arabic (option) characters are supported Other character sets on demand					
Bitmap fonts	Size in width and height 0,8 … 5,6 Zoom 2 … 9 Orientation 0°, 90°, 180°, 270°					
Vector fonts/TrueType fonts	Size in width and height 1 … 99 mm Variable zoom Orientation 0°, 90°, 180°, 270°					
Font attributes	Depending on character font bold, italic, inverse, vertical					
Font width	Variable					
Bar Codes						
1D bar codes	CODABAR, Code 128, Code 2/5 interleaved, Code 39, Code 39 extended, Code 93, EAN 13, EAN 8, EAN ADD ON, GS1-128, Identcode, ITF 14, Leitcode, Pharmacode, PZN 7 Code, PZN 8 Code, UPC-A, UPC-E					
2D bar codes	Aztec Code, CODABLOCK F, DataMatrix, GS1 DataMatrix, MAXICODE PDF 417, QR Code					
Composite bar codes	GS1 DataBar Expanded, GS1 DataBar Limited, GS1 DataBar Omnidirectional, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Truncated					
	All bar codes are variable in height, module width and ratio. Orientation 0°, 90°, 180°, 270°. Optionally with check digit and human readable line.					
Software						
Configuration	ConfigTool					
Process control	NiceLabel					
Label software	Labelstar Office Lite Labelstar Office					
Windows driver	Windows XP® 32/64 Bit, Windows Vista® 32/64 Bit Windows 7® 32/64 Bit, Windows 8® 32/64 Bit Windows 8.1® 32/64 Bit, Windows 10® 32/64 Bit Windows Server 2003® (R2) 32/64 Bit Windows Server 2008® 32/64 Bit, Windows Server 2008® (R2) 64 Bit Windows Server 2012® 64 Bit, Windows Server 2012® (R2) 64 Bit					

Technical modifications are subject to change.

Standard equipment

- Left or right version
- Multi-tasking operating system
- Double-spaced, multilingual display
- 2-slot PCMCIA drive
- Date / time
- IBM keyboard connection
- Inputs/outputs
- Windows printer driver

Optional equipment

- Transfer ribbon savings (only 107/12 and 160/12)
- Ultrasonic photocell (only 107/12 and 160/12)
- Label dispensing unit
- Label unwinding unit
- Rewinder for supporting paper
- Compact Flash Card slot
- PCMCIA cards
- Compact Flash cards
- RS422 interface
- RS485 interface
- Ethernet interface
- Label design software Labelstar Office

3.1 Control inputs and outputs (version I)

Plug connection - back side of control unit

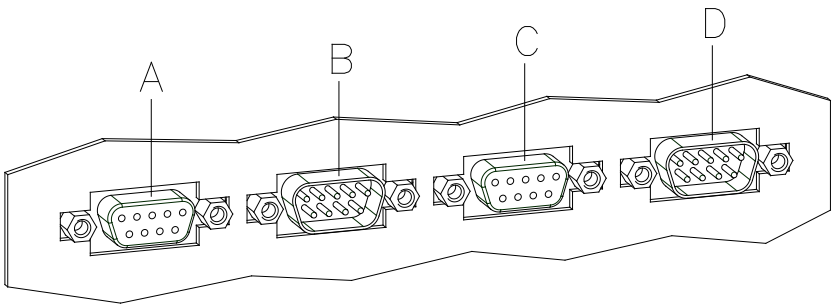


Figure 3

A = External output 1-4 (Output I)
B = External input 1-4 (Input I)
C = External output 5-8 (Output II)
D = External input 5-8 (Input II)

Control outputs

By means of the signal outputs different operating states of the print module can be queried.

The signal outputs are provided by two 9-pin SUB-D-bushings (OUTPUT I and OUTPUT II) on the back side of the control unit.

They consist of optocoupler semiconductor sections, which are connected through and/or blocked according to different operating states.

The maximum allowable current in a semiconductor section is Imax = 30 mA.

Output I
Figure 3, A

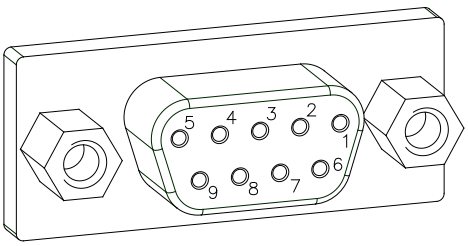
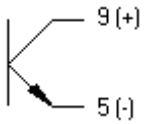
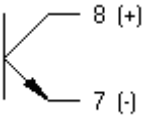
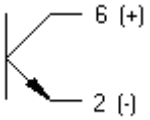
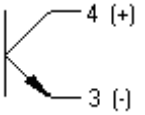


Figure 4

PIN (bushing)	Output I
	Out 1: Error message Each error status such as ribbon error is displayed.
	Out 2: Print order The print module was activated by a print order.
	Out 3: Generation The current label data is processed. In case in dispensing mode either dispensing photocell or dispensing photocell continuous is selected it is indicated if a label is under photocell and ready to pick up.
	Out 4: Layout print The content of print memory is transferred on the printable medium by means of the printhead.

Example Connection of a lamp to a 24V relay by Out 1:

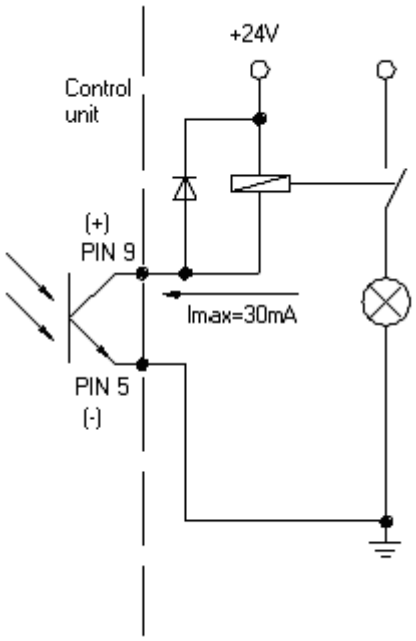


Figure 5

Output II
Figure 3, C

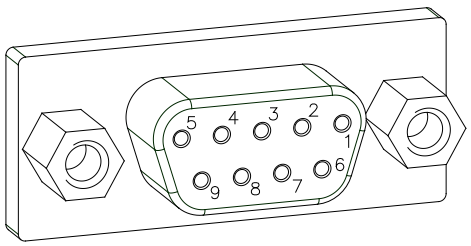
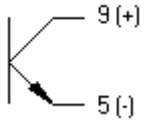
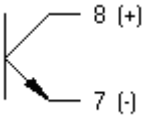
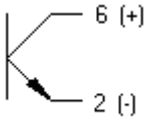
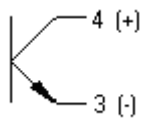


Figure 6

PIN (bushing)	Output II
	Out 5: Print-Ready signal It is indicated if the print module is ready to process a start impulse. In contrary to the print order signal, the generating time is taken into consideration.
	Out 6: Not used
	Out 7: Not used
	Out 8: Prior warning of transfer ribbon end

Control inputs

By means of the control inputs it is possible to control printing. The control inputs at Input I are electroplated separated and have to be provided with an external tension source. The signal level is active "HIGH".

Input I
Figure 3, B

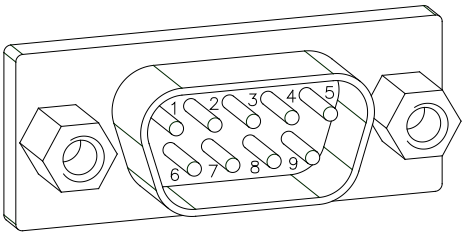
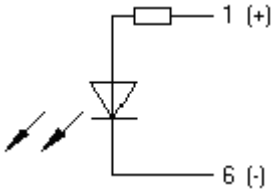
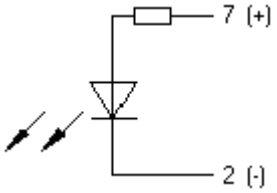
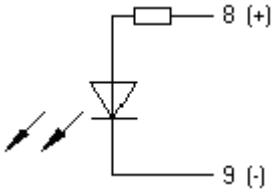
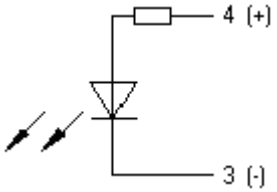


Figure 7

PIN (pin)	Input I
	In 1: Print start
	In 2: Not used
	In 3: Reset external counter
	In 4: Not used

Example

Connection of a switch with 24V voltage supply by In 1:

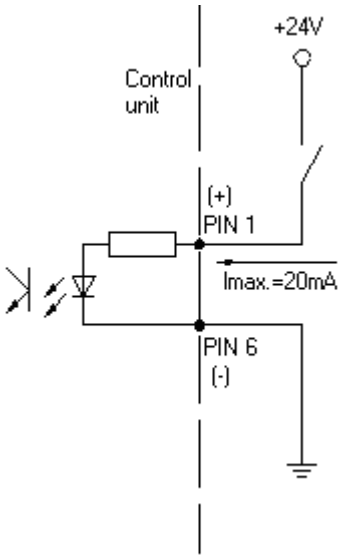


Figure 8

Input II
Figure 3, D

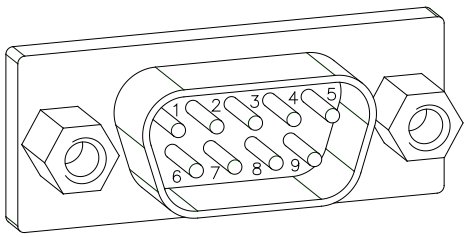
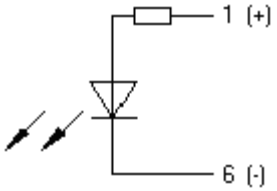
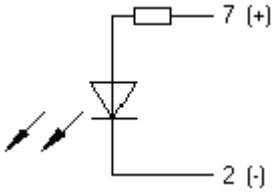
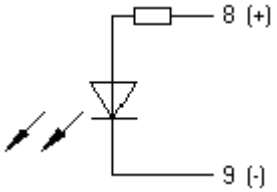
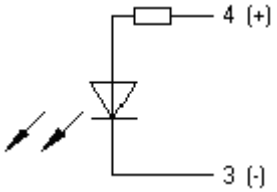


Figure 9

PIN (pin)	**Input II**
	In 5: Not used
	In 6: Not used
	In 7: Not used
	In 8: Not used

3.2 Control inputs and outputs (version II)

Plug connection - back side of control unit

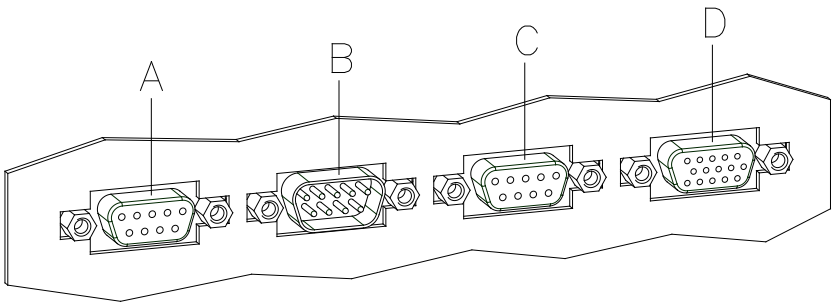


Figure 10

A = External output 1-4 (Output I)
B = External input 1-4 (Input I)
C = External output 5-8 (Output II)
D = External bushing 15pin (I/O-24)

Control outputs

By means of the signal outputs different operating states of the print module can be queried.

The signal outputs are provided by two 9-pin SUB-D-bushings (OUTPUT I and OUTPUT II) on the back side of the control unit.

They consist of optocoupler semiconductor sections, which are connected through and/or blocked according to different operating states.

The maximum allowable current in a semiconductor section is

Imax = 30 mA.

Output I
Figure 10, A

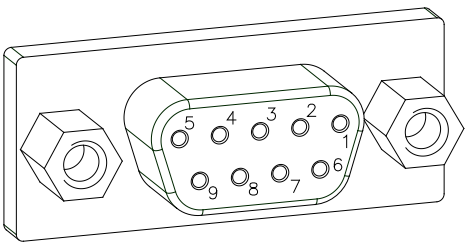
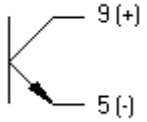
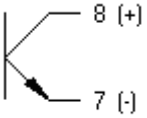
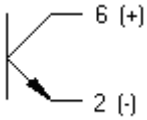
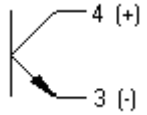


Figure 11

PIN (bushing)	Output I
	Out 1: Error message Each error status such as ribbon error is displayed.
	Out 2: Print order The print module was activated by a print order.
	Out 3: Generation The current label data is processed. In case in dispensing mode either dispensing photocell or dispensing photocell continuous is selected it is indicated if a label is under photocell and ready to pick up.
	Out 4: Layout print The content of print memory is transferred on the printable medium by means of the printhead.

Example Connection of a lamp to a 24V relay by Out 1:

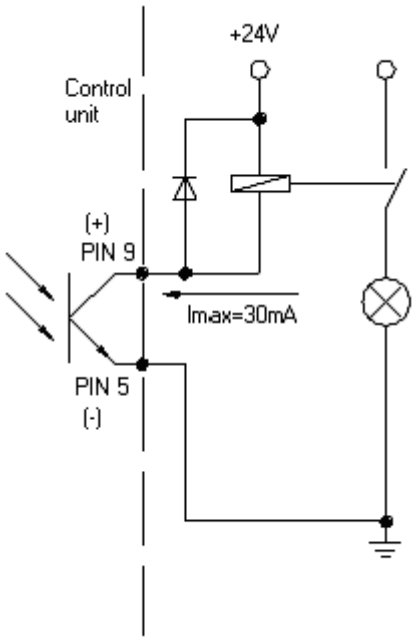


Figure 12

Output II
Figure 10, C

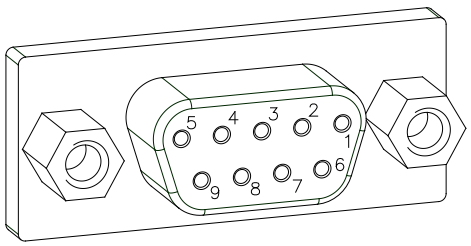
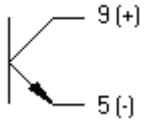
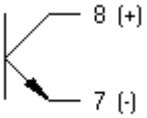
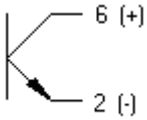
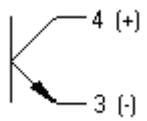


Figure 13

PIN (bushing)	Output II
	Out 5: Print-Ready signal It is indicated if the print module is ready to process a start impulse. In contrary to the print order signal, the generating time is taken into consideration.
	Out 6: Not used
	Out 7: Not used
	Out 8: Prior warning of transfer ribbon end

Control inputs

By means of the control inputs it is possible to control printing. The control inputs at Input I are galvanic separated and have to be provided with an external tension source. The signal level is active "HIGH".

Input I
Figure 10, B

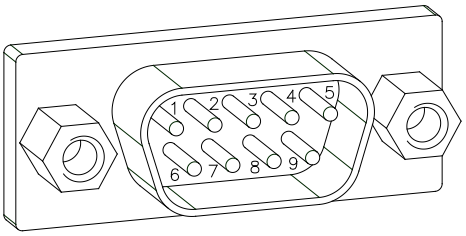
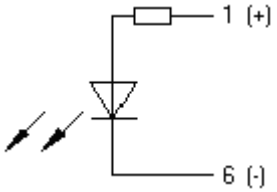
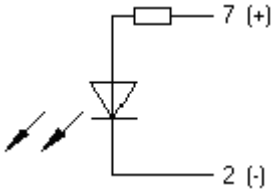
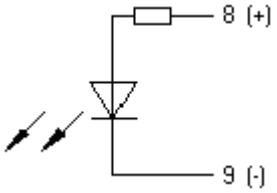
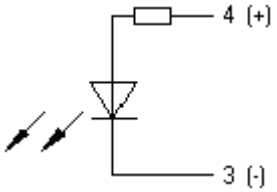


Figure 14

PIN (pin)	Input I
	In 1: Print start
	In 2: Not used
	In 3: Reset external counter
	In 4: Not used

Example

Connection of a switch with 24V voltage supply by In 1:

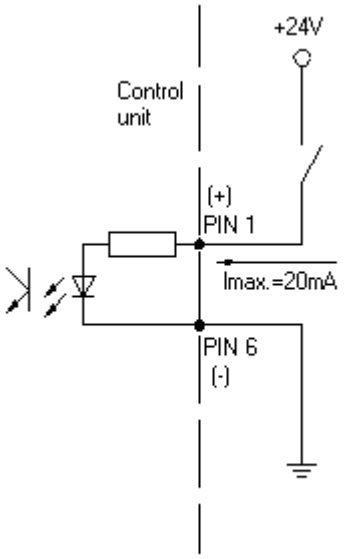


Figure 15

External bushing I/O-24
Figure 10, D

This input is executed as 15-pole and provides user-sided 24V/100mA.
In case of using this bushing, exists **no galvanic separation**.

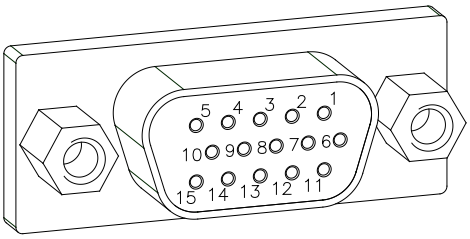
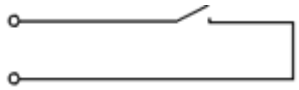
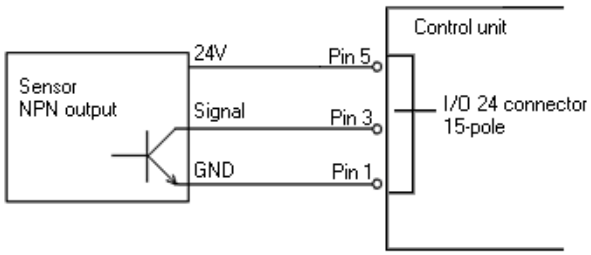


Figure 16

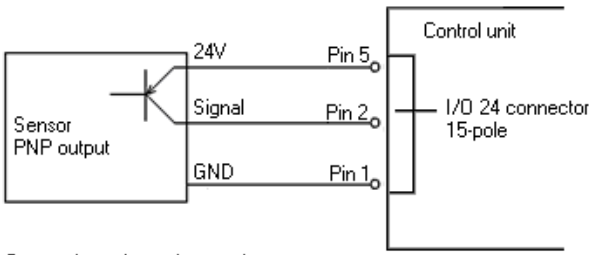
PIN	Function
1, 6	Gnd
5, 10	24 V / 100 mA
3	Print start (NPN initiator)
2	Print start (PNP initiator)
4 14	 Print start by potential-free contact
7 13	 Signal lamp 24 V / 100 mA (error)

Example 1



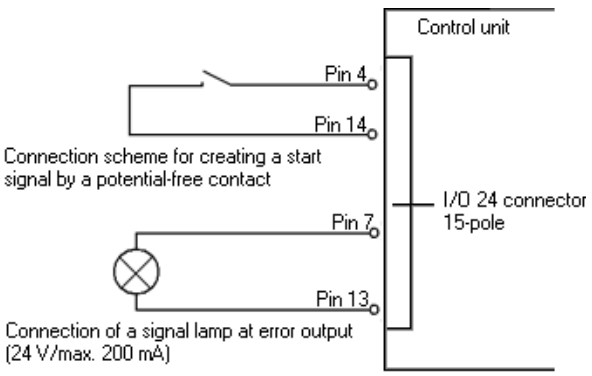
Connection scheme for creating a start signal by a sensor with NPN output

Example 2



Connection scheme for creating a start signal by a sensor with PNP output

Example 3



Connection scheme for creating a start signal by a potential-free contact

Connection of a signal lamp at error output (24 V/max. 200 mA)

3.3 Plug & Play

Plug & Play capable devices can be recognised automatically at parallel ports, USB-IEEE 1394- or infra-red connections but the last both are not important for our print modules.

The following table shows the Plug & Play capability of the different operating systems.

Port		Windows					
		95	98	Me	NT4	2000	XP
LPT	Support	✓	✓	✓	✓	✓	✓
	Recognition by	Boot procedure, device manager			✗		Installation
USB	Support	✗	✓	✓	s.b.	✓	✓
	Recognition by	✗	Hot Plug & Play		s.b.	Hot Plug & Play	

The table above shows that USB provides the recognition during the connection in current operating mode, the so-called Hot-Plug & Play. The following possibilities exist for parallel port:

- Windows 95 / 98 / Me
  Devices are recognised during the start procedure by Windows or by the search for new hardware by means of the hardware wizard.
- Windows 2000 / XP
  Devices can be recognised during the start procedure by Windows or by the search for new hardware by means of the hardware wizard or, if the option 'Automatic recognition and installation of Plug & Play printers' is set in the printer installation wizard. For Windows XP the Hot Plug & Play when switching on the device is obviously possible.

NOTICE!

Windows NT 4.0 does not support USB devices. However, some distributors offer drivers that support USB (without Plug & Play). Such a driver which suits to our print module is offered from BSQUARE.
For more information, visit their web side: www.bsquare.com or contact

BSQUARE Headquarters (USA)
888-820-4500
sales @bsquare.com

BSQUARE (Europe)
+49 (811) 600 59-0
europe@bsquare.com

3.4 Signal diagrams

Dispensing mode: I/O dynamic

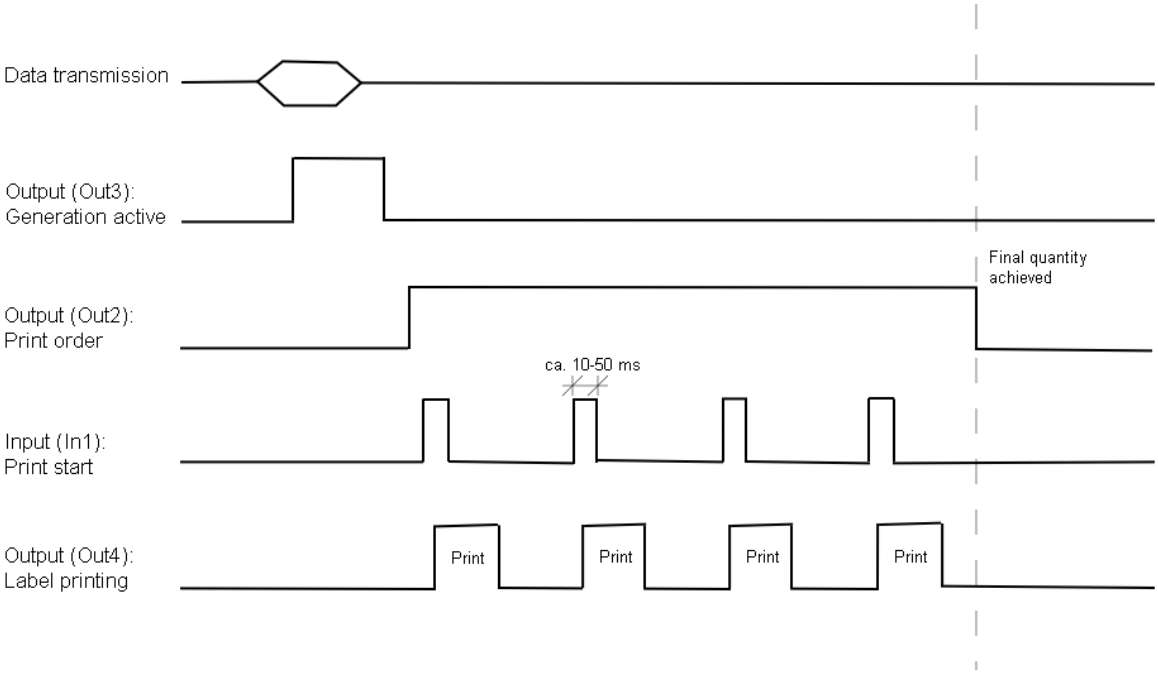


Figure 17

Dispensing mode: I/O dynamic continuous

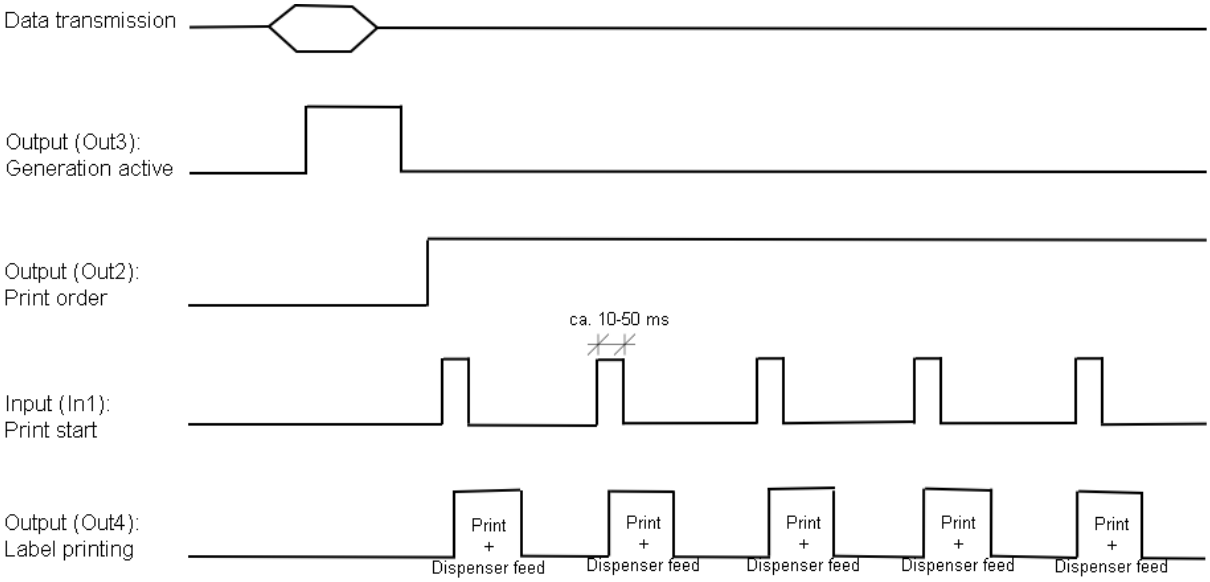


Figure 18

4 Installation

Unpack the print mechanics and control unit

⇒ Lift the print mechanics and control unit out of the box.

⇒ Check the print mechanics and control unit for transport damages.

⇒ Check delivery for completeness.

Scope of delivery

- Print mechanics.
- Control unit.
- Power cable.
- Connection cable (printhead/motors, sensors, power).
- I/O accessories (female connectors for I/O, I/O 24 cable).
- 1 transfer ribbon roll.
- Empty core, mounted on transfer ribbon rewinder.
- Cleaning foil for printhead.
- Documentation.
- CD with printer drivers.

NOTICE!

Retain original packaging for subsequent transport.

4.1 Setting up the print module

CAUTION!

The print module and the print media can be damaged by moisture and water.

⇒ Set up the print module only in a dry place protected from sprayed water.

⇒ Mount the print mechanics on a vibration-free and air draught-free.

⇒ Open cover of print module.

⇒ Remove foam transportation safeguards near the printhead.

4.2 Connecting the print module

Connecting to the power supply

The print module is equipped with a versatile power supply unit. The device may be operated with a mains voltage of 230 V / 50-60 Hz without any adjustments or modifications.

CAUTION!

The print module can be damaged by undefined switch-on currents.

⇒ Set de power switch to '0' before plugging in the print module.

⇒ Insert power cable into power connection socket (2).

⇒ Insert plug of power cable into a grounded electrical outlet.

Connecting to a computer or to a computer network

NOTICE!

Insufficient or missing grounding can cause faults during operation.

Ensure that all computers and connection cables connected to the print module are grounded.

⇒ Connect print module to computer or network with a suitable cable.

4.3 Switching the print module on and off

Once all connections have been made:

⇒ Switch on the control unit.
After switching on the control unit the main menu appears which shows the model type, current date and time

4.4 Initiation of the print module

Insert label material and transfer ribbon (see chapter 5. Loading media, on page 33).

Start measuring in menu 'Label layout/Measure label' (see chapter 7.2 Label layout, on page 46).

Press key  to finish measuring.

NOTICE!

To enable correct measuring, at least two completed labels have to be passed through (not for continuous labels).

During measuring the label and gap length small differences can occur. Therefore the values can be set manually in 'Label layout/Label and Gap' menu.

5 Loading media

5.1 Loading label roll in peel off mode

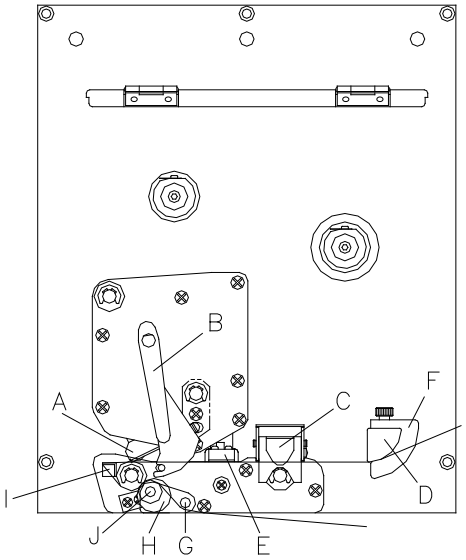


Figure 19

1. Open the print module cover.
2. Open printhead (A) by turning the red pressure lever (B) anticlockwise.
3. Open the engine support (C) by pulling the red bolt to the top.
4. Lead the label material (minimum height = 15 mm) below the label guiding (D) and printhead (A) and take care that the labels run through the photocell (E).
5. Press the engine support (C) again to the bottom until it locks.
6. In order to move the printhead (A) down, turn the red pressure lever (B) in clockwise direction until it locks.
7. Adjust the adjusting rings (F) of the label guiding to the width of material.
8. Lift the dispensing whip (G) by pulling the knurled knob (I) outwards to the bottom.
9. Strip some labels from the backing paper and lead the backing material over the dispensing whip (I) and between the plastic roll (J) and the dispensing whip-shaft (G).
10. Press again the dispensing whip (G) to the top and lock it.
11. Lead the supporting paper to the back and fix it at a rewinding unit.
12. Enter the offset value in the 'Dispenser I/O' menu.
13. Close the print module cover.

5.2 Loading label roll in passing mode

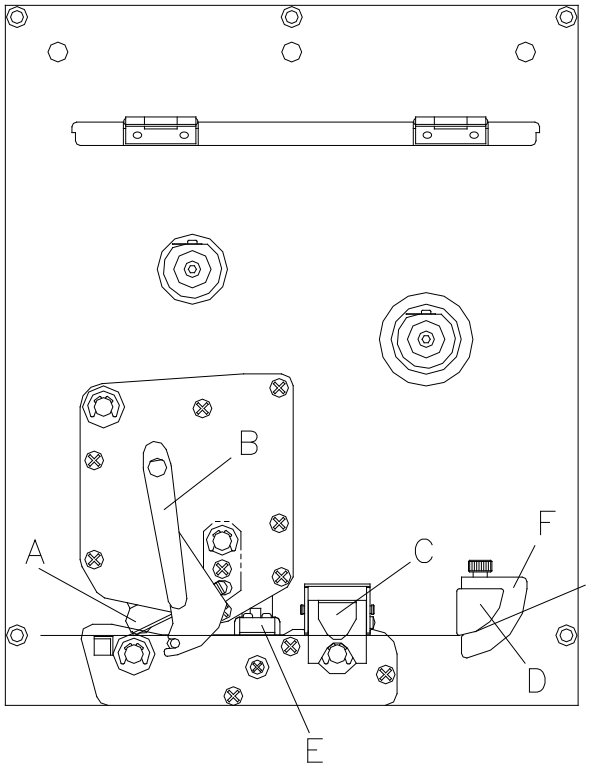


Figure 20

1. Open the print module cover.
2. Open printhead (A) by turning the red pressure lever (B) anticlockwise.
3. Open engine support (C) by pulling the red bolt to the top.
4. Lead the label material below the label guiding (D) and take care that the label runs through the photocell (E).
5. Press the engine support (C) again downwards until it locks.
6. In order to move the printhead (A) down, turn the red pressure lever (B) in clockwise direction until it locks.
7. Adjust the adjusting rings (F) of the label guiding to the width of material.
8. Close the print module cover.

5.3 Loading transfer ribbon

NOTICE!

For the thermal transfer printing method it is necessary to load a ribbon, otherwise when using the print module in direct thermal print it is not necessary to load a ribbon. The ribbons used in the print module have to be at least the same width as the print media. In case the ribbon is narrower than the print media, the printhead is partly unprotected and this could lead to early wear and tear.

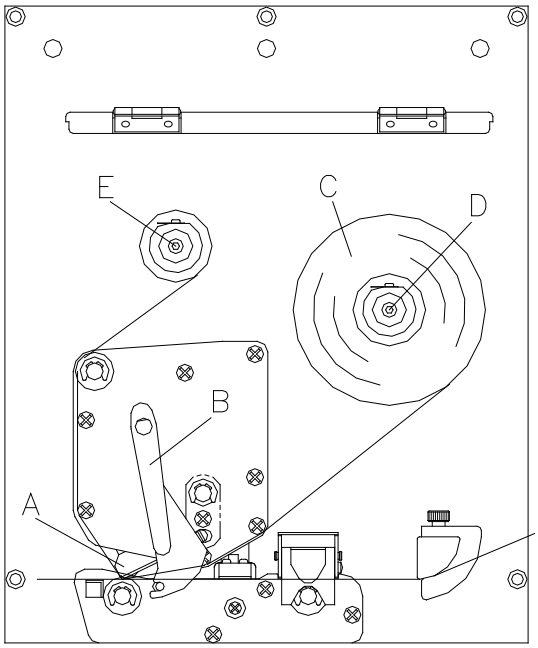


Figure 21

NOTICE!

Before a new transfer ribbon roll is loaded, the printhead must be cleaned using printhead and roller cleaner (97.20.002). For detailed information, please see page 75.
The handling instructions for the use of Isopropanol (IPA) must be observed. In the case of skin or eye contact, immediately wash off the fluid thoroughly with running water. If the irritation persists, consult a doctor. Ensure good ventilation.

1. Open the print module cover.
2. Open printhead (A) by turning the red pressure lever (B) anticlockwise.
3. Load the transfer ribbon roll (C) with outer winding onto the unwinding roll (D).
4. Place an empty ribbon roll on the winding roll (E) and lead the transfer ribbon below the printhead.
5. Fix the ribbon with an adhesive tape in operating direction at the empty roll of the rewinding roll (E).
   Check the perfect run of the transfer ribbon by turning the rewinding roll (E) several times anticlockwise.

6. In order to move the printhead (A) down, turn the red pressure lever (B) in clockwise direction until it locks.
7. Close the print module cover.

NOTICE!

As for the electrostatic unloading the thin coating of the thermal printhead or other electronic parts can be damaged, the transfer ribbon should be antistatic.
The use of wrong materials can lead to malfunctions and the guarantee can expire.

6 Keyboard

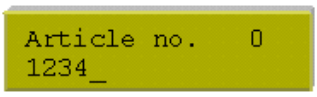
6.1 Keyboard assignment (standard)

Key	Meaning	Function
	Main menu	Back to main menu. Activate test print. Delete stopped print order.
	Up	Printhead upwards.
	Down	Printhead downwards.
	Function menu	Change to function menu. In function menu, one menu item back.
	Feed	In main menu, one label feed. In function menu, change to next menu item.
	Start/Stop	Confirm settings in function menu. Stop and continue current print order. Delete stopped print order with key  . No further label of the print order is printed.
	Memory	Change to Compact Flash card menu.
	Quant	Change to number of copies menu. Press keys  and  to select the number of copies that are to print.
	Forwards	In main menu, printing carriages moves to the before set service position. Change to next input field. Press keys  and  to change values.
	Backwards	In main menu, printing carriage moves back to zero point. Change to previous input field. Press keys  and  to change values.
0 - 9	Function keys	Parameter selection (e.g. speed).
F1 + F2	Function keys	No function.
C	Function key	Delete complete entry.
E	Funcion key	Confirm entry. After confirmation of settings, return to the main menu.

6.2 Keyboard assignment (text entry/customized)

The control unit of the print module is equipped with an alphanumeric character block which allows the user to enter parameters and customised variables without the connection of an external keyboard. Each key contains letters and similar to the use of a mobile phone (like sms) a direct and time-saving input is possible.

The mode is displayed in the first line at the right position so the user can control in which input mode is selected.
As the input is almost done with characters from one mode, the characters are divided in different groups. Following input modes are available:

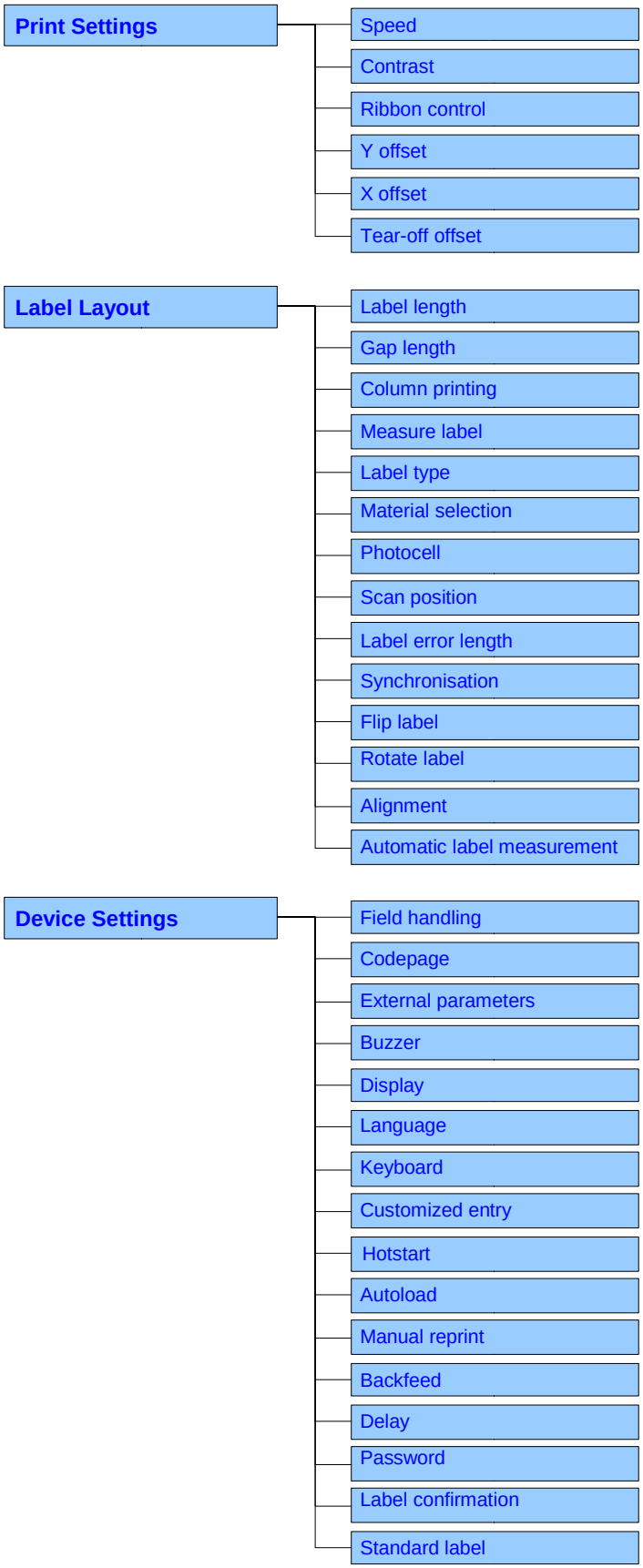


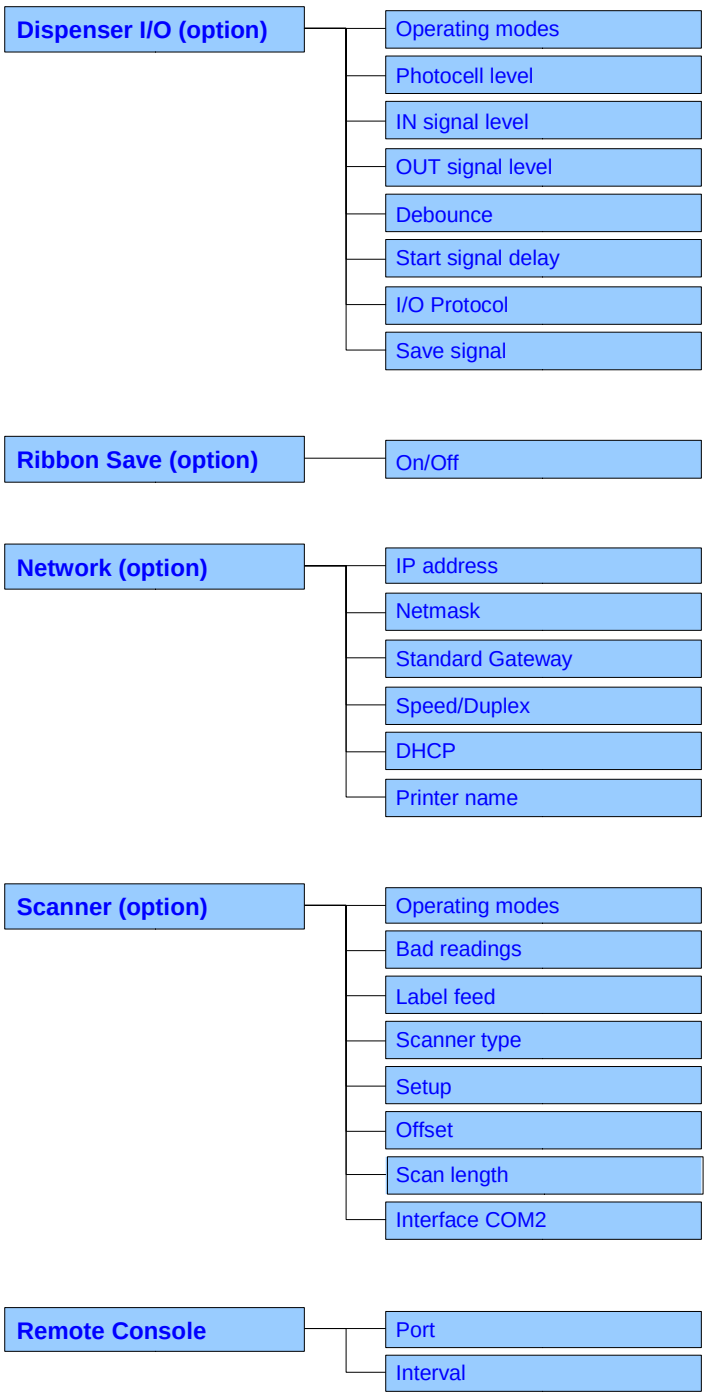
Symbol	Mode
0	Standard, starting with figures
M	Starting with capital letters
m	Starting with small letters
A	Input Alt
a	Input Alt, is switched off after one character

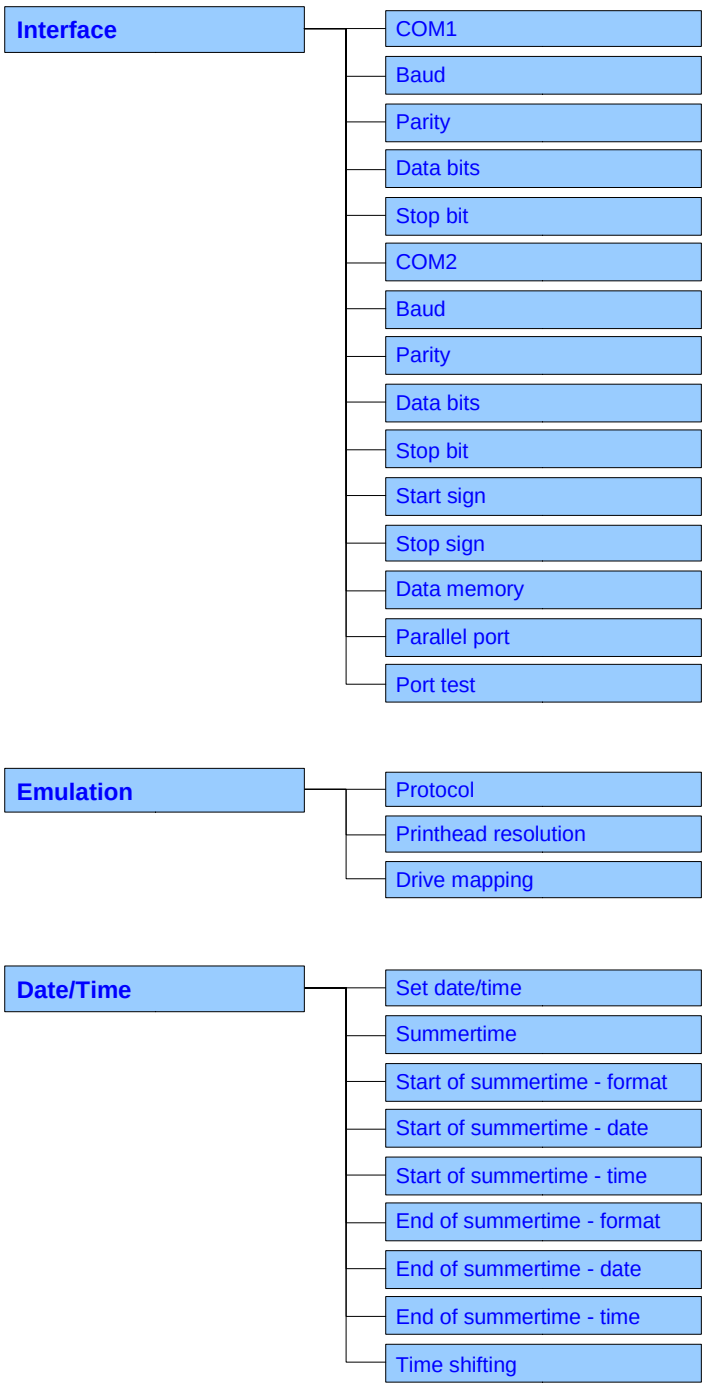
Mode 0
This mode is displayed as default. At first the figure which corresponds to the key is displayed, then all capital and afterwards the small letters.
Mode M
At first all capital, then the small letters and at last the corresponding figure.
Mode m
At first all small letters, then the figure and at last the capital letters.
Mode A
This mode can be used for the creation of special characters. The desired character can be displayed by the assigned number by entering the ANSI code. Please note that the ANSI code has to consist of three digits, i.e. you have possible to enter a zero first.
Mode a
Same as mode A. After input of the selected ANSI code the machine, however, changes back to the previously selected input mode.

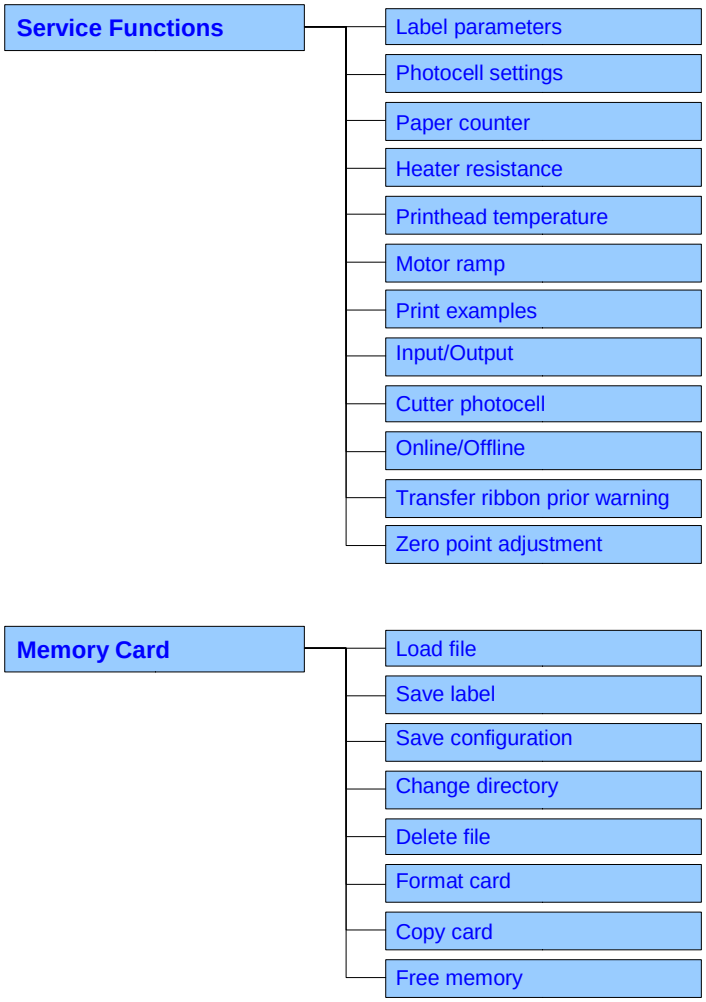
Key	Meaning	Function
	Main menu	Back to main menu. Activate test print. Delete stopped print order.
	Up	For customized variables, change between single entries.
	Down	For customized variables, change between single entries.
	Funktion menu	No function.
	Vorschub	Entry confirmation. Change to the main menu.
	Start/Stopp	Confirmation/end of entry.
	Memory	Entry mode selection.
	Quant	Delete character at cursor position. If the cursor is behind the last character, the last one is deleted. Character is only deleted if it was before entered by the character block.
	Forwards	Cursor one position to the right.
	Backwards	Cursor one position to the left.
0 - 9	Character block	Entry of desired data.
F1 + F2	Function keys	No function.
C	Function key	Delete complete entry. The entry is only deleted if it was entered by the character block.
E	Function key	Confirm entry. After confirmation of settings, return to the main menu.

7 Function menu



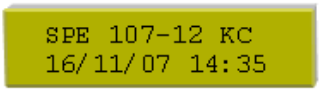

Dispenser I/O (option)
Operating modes
Photocell level
IN signal level
OUT signal level
Debounce
Start signal delay
I/O Protocol
Save signal
Ribbon Save (option)
On/Off
Network (option)
IP address
Netmask
Standard Gateway
Speed/Duplex
DHCP
Printer name
Scanner (option)
Operating modes
Bad readings
Label feed
Scanner type
Setup
Offset
Scan length
Interface COM2
Remote Console
Port
Interval


Interface
COM1
Baud
Parity
Data bits
Stop bit
COM2
Baud
Parity
Data bits
Stop bit
Start sign
Stop sign
Data memory
Parallel port
Port test
Emulation
Protocol
Printhead resolution
Drive mapping
Date/Time
Set date/time
Summertime
Start of summertime - format
Start of summertime - date
Start of summertime - time
End of summertime - format
End of summertime - date
End of summertime - time
Time shifting

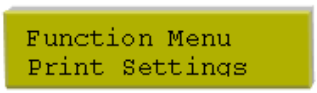

Service Functions
Label parameters
Photocell settings
Paper counter
Heater resistance
Printhead temperature
Motor ramp
Print examples
Input/Output
Cutter photocell
Online/Offline
Transfer ribbon prior warning
Zero point adjustment
Memory Card
Load file
Save label
Save configuration
Change directory
Delete file
Format card
Copy card
Free memory

7.1 Print settings

After switching on the control unit, the display shows the following:



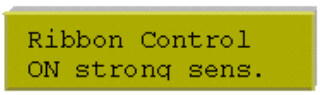
Press key F to access the function menu.



Press key ● to select the menu.

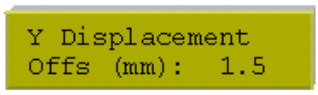
Speed:
Indication of print speed in mm/s.
Contrast:
Indication of contrast in %.
Value range: 10% … 200 %.
Step size: 10%

Press key → to arrive at the next menu item.



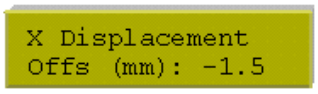
Transfer ribbon control:
Examination if the transfer ribbon roll is to end or if the ribbon was torn at the unwinding roll.
Off: The ribbon control is deselected, i.e. the print module continues without an error message.
On: The ribbon control is selected, i.e. the current print order is interrupted and an error message appears at the display of control unit.
strong sensibility: The print module reacts immediately to the end of the transfer ribbon.
weak sensibility: The print module reacts at approx. 1/3 more slowly to the end of the transfer ribbon.

Press key → to arrive at the next menu item.



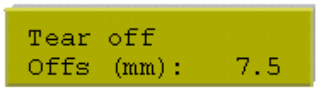
Y displacement:
Indication of initial point displacement in mm. The label is moved vertically.
Value range: −30.0 … +90.0.

Press key → to arrive at the next menu item.



X displacement:
Indication of displacement in X direction. The fields on the label are moved.
Value range: −90.0 … +90.0.

Press key → to arrive at the next menu item.



Tear off:
Indication of value to which the last label of a print order is moved forward and is moved back to the label start at a new print start.
Labels can be torn after termination of the print order without a loss of labels by tearing.
Default: 12 mm.
Value range: 0 … 50.0 mm.

7.2 Label layout

Press key F to access the function menu.

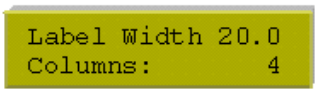
Press key → as long as you arrive at the 'Label layout' menu.

Press key ● to select the menu.

Label:
Indication of label length in mm.

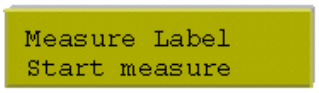
Gap:
Indication of distance between two labels in mm
(not for continuous labels).
Minimum value: 1 mm.

Press key → to arrive at the next menu item.



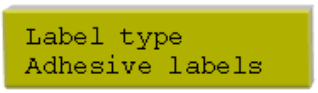
Column printing:
Indication of width of one label as well as how many labels are placed side by side (see chapter 12.1 Column printing, on page 95).

Press key → to arrive at the next menu item.



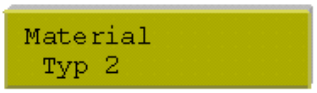
Measure label:
Press key ● to start measuring. The print module stops automatically after termination of measuring. The determined values are displayed and saved.

Press key → to arrive at the next menu item.



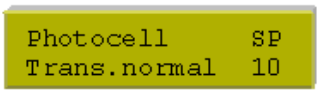
Label type:
Generally adhesive labels are set. Press key ▲ to select continuous labels. If the menu label length/gap length contains a gap value, this value is added to the label length.

Press key → to arrive at the next menu item.



Material:
Selection of the used label and transfer ribbon material.

Press key → to arrive at the next menu item.

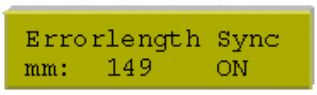


Photocell:
Selection of the used photocell.
The following possibilities are available:

Transmission photocell normal, transmission photocell inverse and ultrasonic photocell (optional)
(see chapter 12.5 Transmission photocells, on page 102).

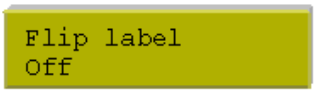
Scan position (SP):
Entry of percental label length by that the label end is searched.
Marks onto the label can be skipped.

Press key → to arrive at the next menu item.



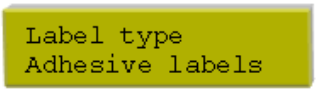
Label error length:
In case an error occurs, indication after how many mm a message appears in the display.
Value range: 1 mm … 999 mm.
Synchronisation:
On: If a label is missed on the liner an error message is displayed.
Off: Missing labels are ignored, i.e. it is printed into the gap.

Press key → to arrive at the next menu item.



Flip label:
The axis of reflection is in the middle of the label. If the label width was not transferred to the printer, automatically the default label width i.e. the width of the printhead is used. It is recommended to use labels with the same width as the printhead. Otherwise this can cause problems in positioning.

Press key → to arrive at the next menu item.

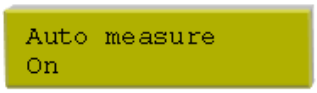


Rotate label:
According to standard the label is printed ahead with a rotation of 0°. If the function is activated, the label is rotated by 180° and printed in reading direction.

Press key → to arrive at the next menu item.

Alignment:
The adjustment of label is effected only after 'flip/rotate label', i.e. the adjustment is independent of the functions flip and rotate label.
Left: The label is aligned at the left-most position of printhead.
Centre: The label is aligned at central point of printhead.
Right: The label is aligned at right-most position of printhead.

Press key → to arrive at the next menu item.

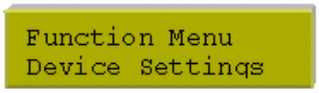


Measure label automatically:
On: After switching on the printer, the loaded label is automatically measured.
Off: In order to start the measurement procedure you have to change to the corresponding menu.

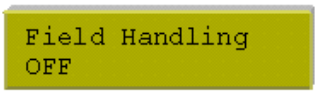
7.3 Device settings

Press key F to access the function menu.

Press key → as long as you arrive at the 'Device settings' menu.

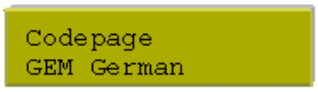


Press key ● to select the menu.



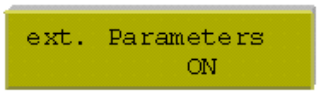
Field handling:
Off: The complete print memory is deleted.
Keep graphic: A graphic res. a TrueType font is transferred to the print module once and stored in the printer internal memory. For the following print order only the modified data is transferred to the print module. The advantage is the saving of transmitting time for the graphic data.
The graphic data created by the print module itself (internal fonts, bar codes, ...) is generated only if they were changed. The generating time is saved.
Delete graphic: The graphics res. TrueType fonts stored in the printer-internal memory is deleted but the other fields are kept.

Press key → to arrive at the next menu item.



Codepage:
Indication of the font used in the print module.
The following possibilities are available:
ANSI character set / Codepage 437 / Codepage 850 / GEM German / GEM English / GEM French / GEM Swedish / GEM Danish

Press key → to arrive at the next menu item.

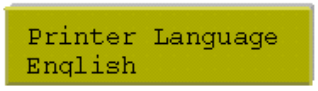


External parameters:
Label dimension only: The parameters for label length, gap length and label width can be transferred to the printer. All other parameter settings are to be made directly at the printer.
On: Sending parameters such as print speed and contrast via our label creation software to the print module. Parameters which are set directly at the print module before are no longer considered.
Off: Only settings made directly at the print module are considered.

Press key → to arrive at the next menu item.

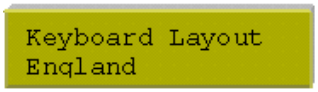
Buzzer:
On: An acoustic signal is audible when pressing a key.
Value range: 1 … 7.
Off: No signal is audible.
Display:
Setting of display contrast.
Value range: 0 … 7.

Press key → to arrive at the next menu item.



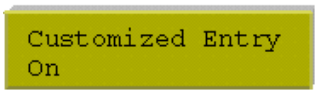
Language:
Selection of language in which you want to display the text in the display of control unit.
At the moment the following languages are available: German, English, French, Spanish, Portuguese, Dutch, Italian, Danish, Finnish, Polish, Czech and Russian.

Press key → to arrive at the next menu item.



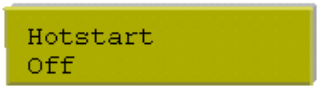
Keyboard layout:
Selection of region for the desired keyboard layout.
The following possibilities are available: Germany, England, France, Greece, Spain, Sweden and US.

Press key → to arrive at the next menu item.



Customized entry:
On: The question referring the customized variable appears once before the print start at the display.
Auto: The question referring the customized variable appears after every printed label.
Off: No question appears at the display. In this case the stored default value is printed.

Press key → to arrive at the next menu item.



Hotstart:
On: Continue an interrupted print order after switching on the print module anew.
(Only if print module is equipped with a memory card)
Off: After switching off the print module the complete data is lost (see chapter 12.3 Hotstart, on page 98).

Press key → to arrive at the next menu item.

Autoload:
On: A label which was loaded once from the memory card can be loaded again automatically after a restart of printer.
Procedure: The used label is saved onto memory card. The label is loaded from memory card and printed. After switching the printer Off and again On, the label is loaded from memory card automatically and can be printed again. Press key ▞ to start a print with indication of number of labels.

NOTICE!

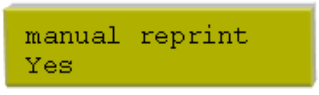
The last loaded label from memory card is always again loaded after a restart of printer.

Off: After a restart of printer the last used label must be again loaded manually from the memory card.

NOTICE!

A common use of the functions Autoload and Hotstart is not possible. For a correct Autoload procedure the Hotstart must be deactivated in the printer.

Press key → to arrive at the next menu item.



Manual reprint:
Yes: I In case an error occurred and print module is in stopped mode then you can reprint the last printed labels by means of keys ▲ and ▼.
No: Only blank labels were advanced.

Press key → to arrive at the next menu item.

Backfd. Standard
Delay (s): 0.60

Backfeed / Delay:
Backfeed: The backfeed was optimised in the operating modes dispenser (optional), cutter (optional) and tear off. Now, when driving into the offset, the following label is 'pre-printed' if possible and therefore the backfeed of label is no necessary and time can be saved.
Delay: The adjustable deceleration time is only for mode 'backfeed automatic' of importance (see chapter 12.4 Backfeed/delay, on page 100).

Press key → to arrive at the next menu item.

Password Prot.
Active

Password:
By a password several functions can be blocked, so the user cannot work with them. There are several applications in which the use of password protection makes sense
(see chapter 12.2 Password, on page 96).

Press key → to arrive at the next menu item.

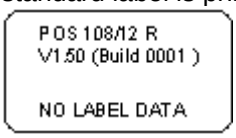
Label confirm.
On

Label confirmation:
On: A new print order is only printed after confirmation at the device. An already active continuing print order is printed as long as the confirmation is effected at the device.
Off: No query appears at the display of control unit.

Press key → to arrive at the next menu item.

Standard label
Off

Standard label:
On: If a print order is started without previous definition of label, the standard label is printed.



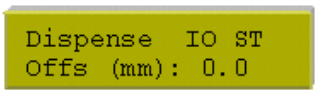
Off: If a print order is started without previous definition of label, an error message appears in the display.

7.4 Dispenser I/O

In order to operate the print module in dispensing mode a print order has to be started and the print module has to be in 'waiting' mode.

Press key F to access the function menu.

Press key → as long as you arrive at the 'Dispenser I/O' menu.



Press key ● to select the menu.

In the first line of the display the dispenser mode can be selected.
In the second line the dispenser offset which is approx. 18 mm can be set.

Press key ▲ to arrive at the next operating mode.

Dispenser I/O operating modes

Off:
It is printed without the labels are dispensed.

I/O static:
The input signal evaluated, i.e. it is printed as long as the signal exists. The number of labels which was entered at the print start is printed.
The set dispenser offset is not taken into consideration.

I/O static continuous:
You can find the description of this operating mode in chapter I/O static.
Continuous means that it is printed as long as new data is transferred via interface
The set dispenser offset is not taken into consideration.

I/O dynamic:
The external signal is evaluated dynamically, i.e. is the print module in 'waiting' mode a single label is printed at each signal changing. After the print the set dispenser offset is executed, i.e. a backfeed is effected.

I/O dynamic continuous:
You can find the description of this operating mode in chapter I/O dynamic.
Continuous means that it is printed as long as new data is transferred via interface.

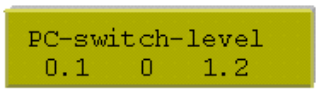
Photocell:
The print module is controlled via photocell. The print module prints automatically a label if the user takes away the label at the dispensing ledge. The print order is finished when the target number of labels is reached.

Photocell continuous:
You can find the description of this operating mode in chapter photocell.
Continuous means that it is printed as long as new data is transferred via interface.

Press key → to select additional parameters or press keys F and/or ● to return to the main menu.

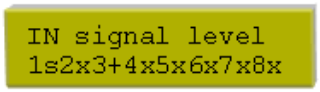
Additional parameters for dispenser I/O

After selection of desired dispenser I/O operating mode, press key → to select additional parameters.



Photocell switch level:
First value = Indication of current photocell level.
Second value = Indication if a label (value = 1) or if no label (value = 0) was found.
Third value = Indication of switch level. The modification of this value is only taken into consideration for the operating modes Photocell and Photocell continuous.

Press key → to arrive at the next parameter.

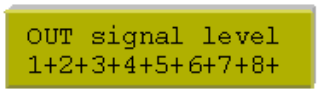


IN signal level:
Indication of signal at which a print order is started.

\+ = active signal level is 'high' (1)
− = active signal level is 'low' (0)
x = not activated signal level
s = status can be affected by interface*

The modification of the signal level is only taken into consideration for the operating modes I/O static, I/O dynamic, I/O static continuous and I/O dynamic continuous.

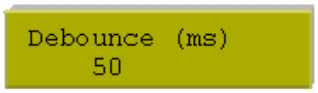
Press key → to arrive at the next parameter.



OUT signal level:
Indication of signal level for output signal.

\+ = active signal level is 'high' (1)
− = active signal level is 'low' (0)
s = status can be affected by interface*

Press key → to arrive at the next parameter.



Debounce:
Indication of debounce time of the dispenser input. The setting range of the debounce time is between 0 and 100 ms.
In case the start signal is not clear then you can debounce the input by means of this menu item.

Press key → to arrive at the next parameter.

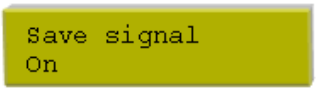
Start signal delay:
Indication in time per second of the delay for the start signal.
Value range: 0.00 … 9.99.

Press key → to arrive at the next parameter.

IO protocol:
Indication of interface at which the modifications of input signals (I/O) are sent.

* in combination with Netstar PLUS

Press key → to arrive at the next parameter.

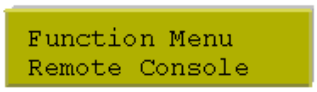


Save signal:
On: The start signal for the next label can already be released during printing the current label. The signal is registered from the print module. The print module starts printing the next label immediately after finishing the current one. Therefore time can be saved and performance be increased.
Off: The start signal for the next label can only be released if the current label is printed to the end and the print module is again in 'waiting' state (output 'ready' set). If the start signal was released already before, so this is ignored.

7.5 Remote console

Press key F to access the function menu.

Press key → as long as you arrive at the 'Remote console' menu.

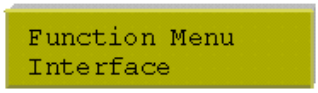


For more information please contact our sales department.

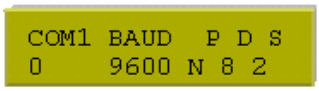
7.6 Interface

Press key F to access the function menu.

Press key → as long as you arrive at the 'Interface' menu.

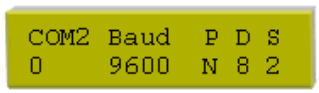


Press key ● to select the menu.



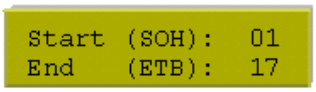
COM1:
0 - serial interface Off.
1 - serial interface On.
2 - serial Interface On, no error message occurs in case of a transmission error.
Baud rate:
Indication of bits which are transferred per second.
Following values are possible: 1200, 2400, 4800, 9600, 19200, 38400 and 57600.
P = Parity:
N - No parity; E - Even; O - Odd
Please observe that the settings correspond to those of the print module.
D = Data bits:
Setting of data bits. Value range: 7 or 8 Bits.
S = Stop bits:
Indication of stop bits between bytes. Value range: 1 or 2 stop bits.

Press key → to arrive at the next menu item.



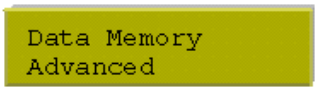
COM2:
0 - serial interface Off.
1 - serial interface On.
2 - serial Interface On, no error message occurs in case of a transmission error.
Baud rate:
Indication of bits which are transferred per second.
Following values are possible: 1200, 2400, 4800, 9600, 19200, 38400 and 57600.
P = Parity:
N - No parity; E - Even; O - Odd
Please observe that the settings correspond to those of the print module.
D = Data bits:
Setting of data bits. Value range: 7 or 8 Bits.
S = Stop bits:
Indication of stop bits between bytes. Value range: 1 or 2 stop bits.

Press key → to arrive at the next menu item.



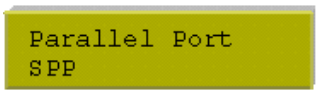
SOH: Start of data transfer block → Hex format 01
ETB: End of data transfer block → Hex formal 17
Two different start / en signs can be set. The settings are normally SOH = 01 HEX and ETB = 17 HEX. Several host computers cannot process these signs and therefore SOH = 5E HEX and ETB = 5F cannot be set.

Press key → to arrive at the next menu item.



Data memory:
Standard: After starting a print order the printer buffer receives data as long as it is filled.
Advanced: During a current print order data is received and processed.
Off: After starting a print order no more data is received.

Press key → to arrive at the next menu item.



Parallel port:
SPP - Standard Parallel Port
ECP - Extended Capabilities Port (grants a fast data transmission but it is only to set at PCs of newer version).
Please observe that the settings correspond to those of the PC.

Press key → to arrive at the next menu item.

Port test:
Check whether the data are transferred via the interface.
Press the ▲ and ▼ keys to select standard (on). Press the ● key and the data sent via any port (COM1, LPT, USB, TCP/IP) is printed.

7.7 Emulation

Press key F to access the function menu.

Press key → as long as you arrive at the 'Emulation' menu.

```
Function menu
Emulation
```

Press key ● to select the menu.

```
Protocol
ZPL
```

Protocol:
CVPL: Carl Valentin Programming Language
ZPL: Zebra® Programming Language
Change between CVPL protocol and ZPL II® protocol.

Press key ● to confirm the selection.

The printer performs a restart and ZPL II® commands are transformed into CVPL commands internally by the printer and then executed by the printer.

Press key → in menu protocol to arrive at the next menu item.

```
Head Resolution
  11.8 (Dot/mm)
```

Printhead resolution:
At activated ZPL II® emulation the printhead resolution of the emulated printer must be set, e.g. 11.8 Dot/mm (= 300 dpi).

NOTICE!

If the printhead resolution of the Zebra® printer differs from that of the Valentin printer, then the size of objects (e.g. texts, graphics) complies not exactly.

Press key → to arrive at the next menu item.

```
Drive mapping
B:->A:  R:->R:
```

Drive mapping:
The access to Zebra® drives
B: Memory Card
R: RAM Disk (standard drive, if not indicated)

is rerouted to the corresponding Valentin drives
A: Memory Card (slot 1) and/or Compact Flash
B: Memory Card (slot 2)
R: RAM Disk

This can be necessary if the available space on the RAM disk (at present. 512 KByte) is not sufficient or if bitmap fonts are downloaded to the printer and be stored permanently.

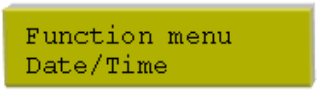
NOTICE!

As the printer build-in fonts in Zebra® printers are not available in Valentin printers, this can cause small differences in the text image.

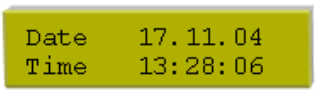
7.8 Date & time

Press key F to access the function menu.

Press key → as long as you arrive at the 'Date/Time' menu.

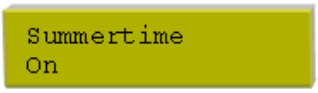


Press key ● to select the menu.



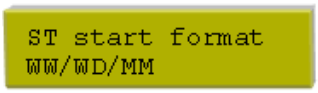
Set date and time:
The upper line of display shows the current date, the second line the current time.
With keys ◄ and ► you can change to the next or previous field.
With keys ▲ and ▼ you can increase and/or decrease the displayed values.

Press key → to arrive at the next menu item.



Summertime:
On: Print module automatically adjust clock for daylight saving changes.
Off: Summertime is not automatically recognized and adjusted.

Press key → to arrive at the next menu item.

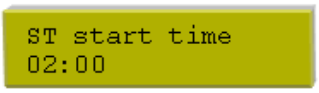


Start of summertime (format):
Select the format in which you want to define beginning summertime. The above example indicates the default setting (European format).
DD = day; WW = week; WD = weekday; MM = month; YY = year; next day = only next day is taken into consideration

Press key → to arrive at the next menu item.

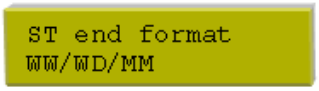
Start of summertime (date):
By means of this function you can enter the date at which summertime has to start. This entry refers to the previously selected format.
Example: summertime is automatically adjusted at last Sunday in March (03).

Press key → to arrive at the next menu item.



Start of summertime (time):
By means of this function you can define the time when you want to start summertime.

Press key → to arrive at the next menu item.

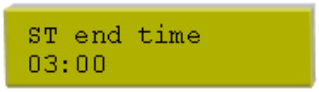


End of summertime (format):
Select the format in which you want to define end of summertime. The above example indicates the default setting (European format).
DD = day; WW = week; WD = weekday; MM = month; YY = year; next day = only next day is taken into consideration

Press key → to arrive at the next menu item.

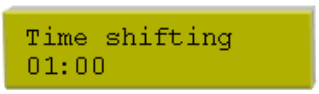
End of summertime (date):
By means of this function you can define the date when you want to stop summertime. The entry refers to the previously selected format.
Example: summertime is automatically adjusted at last Sunday in October (10).

Press key → to arrive at the next menu item.



End of summertime (time):
By means of this function you can define the time when you want to stop summertime.

Press key → to arrive at the next menu item.



Time shifting:
By means of this function you can enter time shifting in hours and minutes (for automatically adjustment from summer and wintertime). This entry refers to the currently set print module time.

7.9 Service functions

NOTICE!

So that the distributor res. the print module manufacturer at the case of service can offer fast support, the print module is equipped with the Service functions menu.

Necessary information such as set parameter can read directly at the print module (see chapter 7.10, on page 61).

Press key F to access the function menu.

Press key → as long as you arrive at the 'Service functions' menu.

```
Function Menu
Service Function
```

Press key ● to select the menu.

```
Label-Para.  3.0
A:0.3 B:3.0 C1.6
```

Label parameters: Indication of label parameters in Volt.
A: Indication of minimum value.
B: Indication of difference between minimum and maximum value.
C: Indication of trigger level. The value is ascertained while measuring and can be changed.

Press key → to arrive at the next menu item.

```
DLS RLS SLS TR H
3.5 1.5 0.0  0 0
```

Photocell parameters:
DLS: Indication of transmission photocell level in Volt.
RLS: Indication of reflexion photocell level in Volt.
SLS: Indication of peel off photocell level in Volt.
TR: Indication of transfer ribbon photocell status (either 0 or 1).
H: Indication of printhead position.
0 = printhead down
1 = printhead up

Press key → to arrive at the next menu item.

```
Paper Counter
D000007 G000017
```

Paper counter:
D: Indication of printhead attainment in meters.
G: Indication of print module attainment in meters.

Press key → to arrive at the next menu item.

```
Heater Resist.
     1250
```

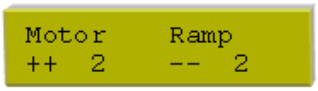
Heater resistance:
To achieve a high print quality, the indicated Ohm value must be set after an exchange of printhead.

Press key → to arrive at the next menu item.

```
Printhead Temp.
  23
```

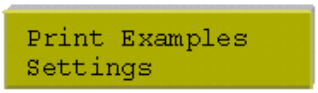
Printhead temperature:
Indication of printhead temperature. The printhead temperature corresponds normally to the room temperature. In case the maximum printhead temperature is exceeded, the current print order is interrupted and an error message appears at the display of control unit.

Press key → to arrive at the next menu item.



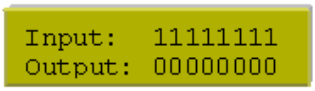
Motor Ramp:
This function is often used for high printing speed as the tearing of transfer ribbon can be prevented.
The higher the '++' value is set, the slower the feeding motor is accelerated.
The smaller the '−−' value is set, the faster the feeding motor is decelerated.

Press key → to arrive at the next menu item.



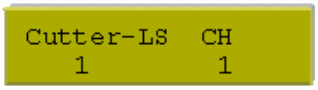
Print examples:
Settings: Printout of all device settings such as speed, label and transfer ribbon material.
Bar codes: Printout of all available bar code types.
Fonts: Printout of all available font types.

Press key → to arrive at the next menu item.



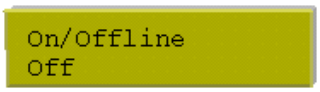
Input/Output:
Indication of signal level which indicates the signal a print order is started.
0 - Low
1 - High

Press key → to arrive at the next menu item.



Cutter photocell:
1 - Print module is equipped with a cutter
0 - Print module is not equipped with a cutter
CH:
1 - The cutter is in the initial position and ready for the cutting procedure.
0 - The cutter is not in the initial position. Before you are going to release a cutting procedure you first have to place the cutter in its initial position.

Press key → to arrive at the next menu item.

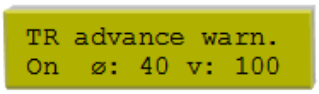


Online/Offline:
This function is activated e.g. if the transfer ribbon is to be changed. It is avoided that a print order is processed although the module is not ready. If the function is activated then press the key ● to change between Online and Offline mode. The respective state is indicated in the display.
Standard: Off

Online: Data can be received by interface. The keys of the foil keyboard are only active, if you changed in the Offline mode with key ●.

Offline: The keys of the foil keyboard are still active but received data are not processed. If the module is again in Online mode then new print orders can be again received.

Press key → to arrive at the next menu item.



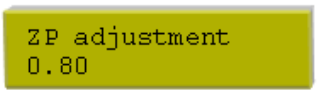
TRB = Transfer ribbon advance warning:
Before the end of transfer ribbon, a signal is send by the control output.

Warning diameter:
Setting of transfer ribbon acvance warning diameter.

In case you enter a value in mm then a signal appears via control output when reaching this diameter (measured at transfer ribbon roll).

v = Reduced print speed:
Setting of the reduced print speed. This can be set in the limits of the normal print speed. Additionally there are the following settings:
−: No reduced print speed
0: Print module stops at reaching the warning diameter and indicates 'ribbon error'.

Press key → to arrive at the next menu item.



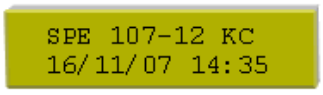
Zero point adjustment:
Indication of value in 1/100 mm.
After replacing the printhead - the print cannot be continued at the same position on the label, the difference can be corrected.

NOTICE!

The value for zero point adjustment is set ex works. After replacing the printhead, only service personnel are allowed to set this value anew.

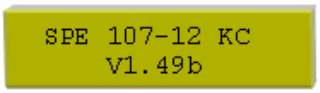
7.10 Main menu

After switching on the control unit, the display shows the following:



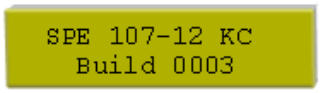
The first line of main menu indicates used model type.
The second line indicates current date and time.

Press key ● for display the following:



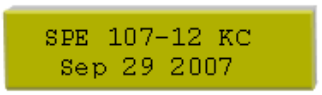
The second line of display indicates version number of firmware.
After a short time the indication of display returns automatically to main menu.

Press key ● once more for display the following:



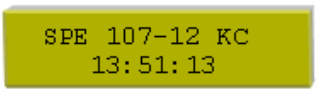
Indication of software Build version.

Press key ● once more for display the following:



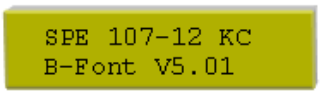
Indication of firmware creation date.

Press key ● once more for display the following:



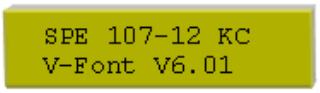
Indication of firmware creation time.

Press key ● once more for display the following:



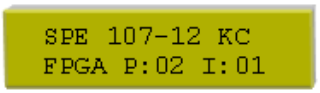
Indication of font version of bitmap fonts.

Press key ● once more for display the following:



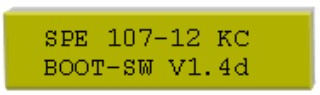
Indication of font version of vector fonts.

Press key ● once more for display the following:



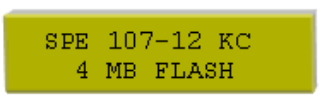
Indication of version numbers of both FPGA
(P = printhead; I = I/O)

Press key ● once more for display the following:



Indication of boot software version number.

Press key ● once more for display the following:



Indication of memory space of FLASH in MB.

8 Options

8.1 Ribbon save

The menu item ribbon save is only displayed if the print module recognizes the option by the ribbon save photocell when switching on the print module.

Ribbon save = maximum utilisation of transfer ribbon

The above example shows that the consumption of transfer ribbon is much lower when using the ribbon save option.

Press key F to access the function menu.

Press key → as long as you arrive at the 'Ribbon save' menu.

Function Menu
Ribbon save

Press key ● to select the menu.

Press key ▲ so switch the ribbon savings function On or Off.

8.2 Network

Press key F to access the function menu.

Press key → as long as you arrive at the 'Network' menu.

Function Menu
Network

This menu item can only be selected if a network card is recognised at switching on the print module, otherwise a message appears that the option is not available.
For more information, please see the separate manual.

8.3 Scanner

Press key F to access the function menu.

Press key → as long as you arrive at the 'Scanner' menu.

```
Function Menu
Scanner
```

Press key ● to select the menu.

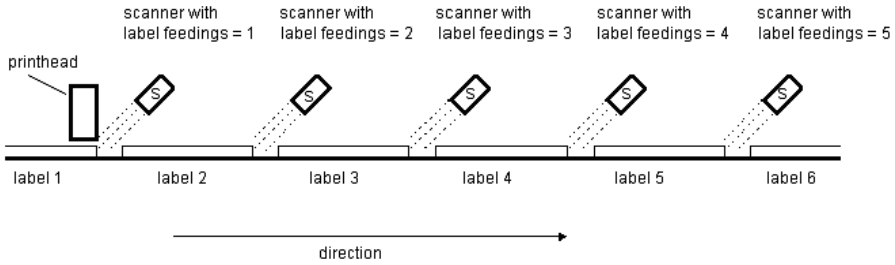
```
Mode NoRd FLti
   1    1    1
```

Mode:

0 Off
1 Mode 1 (data comparison)
i.e. bar code date which was read by the scanner is compared with the printed data.
2 Mode 2 (check readability)
i.e. it is only checked if the scanner can read the printed bar codes.

NoRd = Non readables:
Indication of number of successive non readables, i.e. when the print module indicates an error message.
Value range: 1 - 9
1 = the print module stops at the first label which cannot be red from the scanner and shows an error message.

VEtik = Label feeding:
In many cases it is impossible to position the scanner directly at the printhead, and therefore with this setting a feeding can be set
Value range: 1 - 5
The illustration below clarifies the meaning of this parameter.



Press key → to arrive at the next menu item.

```
Scanner Type
```

Scanner type:
Selection of the connected scanner type.
For more information about the different scanner models, please contact our sales department.

Press key → to arrive at the next menu item.

```
Scanner-Setup
Start
```

Scanner setup:
Positioning of scanner. First of all, the scanner must be connected, the appropriate scanner must be selected in the scanner type menu, the interface must be activated in the interface parameter menu and the interface parameters must be set correctly.

Scan Offset (mm)
0.2

Press key → to arrive at the next menu item.

Scanner offset:
Indication of value at which the label is moved so the scanner can read data onto the label.

Scan Length (mm)
0.0 Auto

Press key → to arrive at the next menu item.

Scanner length:
If this parameter is set to 0 (AUTO), the switch on and off position of scanner is calculated by means of position and height of bar code onto the label.
If the parameter Scan Length is not 0, so this defines the length of scan sector. The start of scan sector is then set by the parameter Scan Offset. The following drawing shows the meaning of parameter.

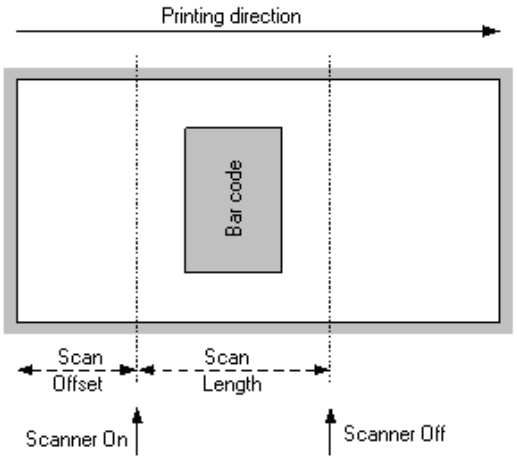


Figure 22

COM2 Baud P D S
0 9600 N 8 2

Press key → to arrive at the next menu item.

Interface:
In order to use a scanner, the COM interface must be set to 1.

For more information, please see the separate manual.

9 Memory Card

This front side of control unit is equipped with two memory card slots. By means of this memory card you can permanently save via interface graphics, text, label data or information from database.

Insertion and removal of memory card

Insert memory card with contact side forwards to the slot that was planned for it. Take care that the memory card engaged and the marking is on the left side (see illustration).
To take the memory card out of device A you have to press the upper ejector knob, to take out the card of device B press the lower one.

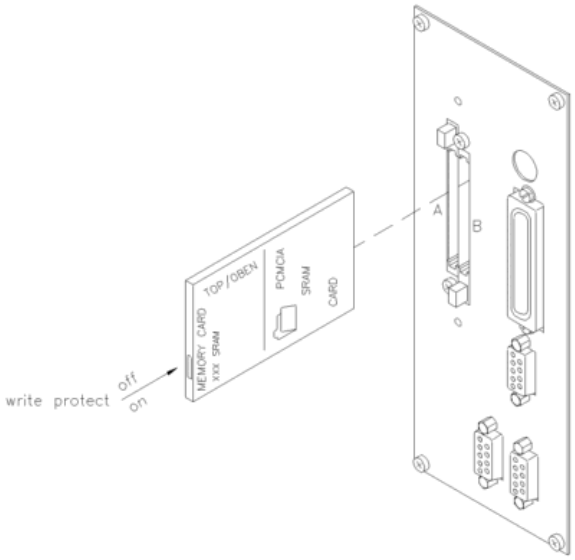
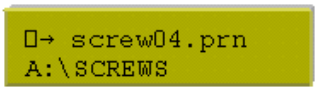


Figure 23

File and/or directory name

The print module handles your memory card as a DOS compatible file system.

After formatting the memory card the STANDARD directory is automatically available. After switching on the print module or inserting the memory card, this directory is the current one. The directories are displayed with capital letters and the '<' sign. The indication of single files is effected in small letters.



The first line of the display shows the directory in capital letters res. the selected file, the second line shows the currently selected device with the corresponding path indication.

Key assignment

Press key to indicate the saved labels onto the memory card.

Press key F to enter the memory card menu.

Press key to arrive at the next menu item.

Press key F to return to the previous menu item.

Press key to select a menu and/or to confirm a query.

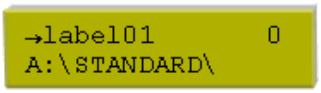
Press key F to change between drive A and B inside a selected function.

Press key and to browse the contents of the current directory.

Press key and to change to the indicated directory.

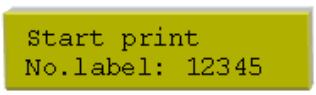
Selecting label

Keys:



Press key and to select the desired label in STANDARD directory.

Press key to select the label.



Select the number of labels which you want to print

Press key to start the print order.

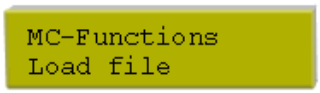
After finishing the print order the display shows again the main menu.

NOTICE!

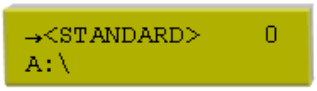
It is NOT possible to change the directory. Enter the menu 'Change dir' to change the directory.

Loading file from memory card

Keys: , F



Press key to select the 'Load file' menu item.

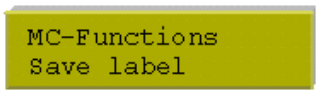


Select the file you want to load and confirm the selection with key .

The loaded label is now in the printer internal storage and after the loading procedure the display shows the main menu.

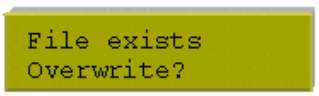
Saving label onto memory card

Keys: , F,



Press key to select the 'Save label' menu item.

Select the directory and/or label you want to save and confirm the selection with key .

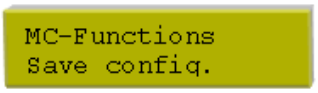


Confirm the query with and the label will be saved.

After the saving procedure the display shows again the main menu.

Saving configuration

Keys: , F, ,



Press key to select the 'Save configuration' menu item.

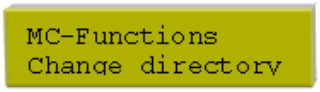
As standard, the proposed file name is config.cfg. This name can be changed by the user. In this file the printer parameters are saved which are not saved permanent in the internal Flash.

Press key to start the saving procedure.

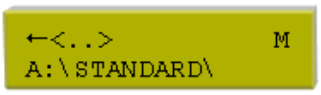
After the saving procedure, the display shows again the main menu.

Changing directory/drive

Keys: [💾], [F], [ ], [ ], [ ]



Press key [●] to select the 'Change directory' menu item.



The lower line of display shows the directory which is selected at the moment.

Press key [▲] and [▼] to change the directory in the upper line.

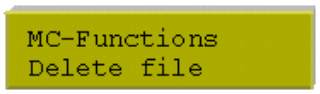
Press key [◄] and [►] to show all available directories.

Press key [●] to confirm the selected directory.

After changing the directory the display shows again the main menu.

Deleting file from memory card

Keys: [💾], [F], [ ], [ ], [ ], [ ]



Press key [●] to select the 'Delete file' menu item.

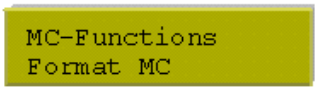
Select directory and/or label you want to delete and confirm the selection with key [●].

The selected label is deleted from the memory card.

After the deleting procedure the display shows again the first menu item 'Load file'.

Formatting memory card

Keys: [💾], [F], [ ], [ ], [ ], [ ], [ ]



Press key [●] to select the 'Format' menu item.

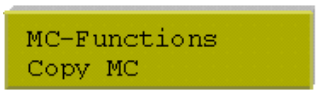
Press key [●] to confirm the selection and the procedure is started.

When formatting the memory card the STANDARD directory is automatically created.

After the formatting procedure the display shows again the 'Load file' menu item.

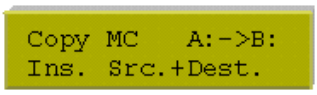
Copying memory card

Keys: [💾], [F], [→], [→], [→], [→], [→], [→]



Press key [●] to select the 'Copy' menu item.

Press key [→] to select the copy function.
Drive A to A, A to B, B to A or B to B.



Insert source and destination card and press key [●] to confirm the selection. The content of the source card is transferred to the destination card.

NOTICE!

When copying from A to A and B to B, please observe that the memory cards have the same storage capacity.

When copying from A to A res. B to B first of all the query regarding the destination card appears on the display.

Insert card and confirm the query. If the content of the card is loaded into the printer-internal memory, a prompt appears to insert the destination card.

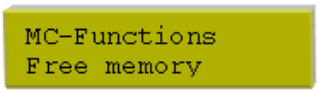
NOTICE!

Depending on the storage capacity of memory card, this procedure is to be repeated.

After the copying procedure the display shows again the 'Load file' menu item.

Indication of free memory space

Keys: [💾], [F], [→], [→], [→], [→], [→], [→], [→]



Press key [●] to select the 'Free memory' menu item.

The still available memory space onto memory card is indicated.

Press key [III] to display again the 'Load file' menu item.

10 Maintenance and cleaning

DANGER!

Risk of death by electric shock!

⇒ Disconnect the print module from power supply before performing any maintenance work.

NOTICE!

When cleaning the label printer, personal protective equipment such as safety goggles and gloves are recommended.

Maintenance schedule

Maintenance task	Frequency
General cleaning (see section 10.1, on page 74).	As necessary.
Cleaning print roller (see section 10.2, on page 74).	Each time the label roll is changed or when the printout and label transport are adversely affected.
Cleaning printhead (see section 10.3, on page 75).	**Direct thermal printing:** Each time the label roll is changed. **Thermal transfer printing:** Each time the transfer ribbon is changed or when the printout is adversely affected.
Cleaning label photocell (see section 10.4, on page 76).	When exchanging the label roll.
Replacing printhead (see section 10.5, on page 77).	When errors in the printout occur.

NOTICE!

The handling instructions for the use of Isopropanol (IPA) must be observed. In the case of skin or eye contact, immediately wash off the fluid thoroughly with running water. If the irritation persists, consult a doctor. Ensure good ventilation.

WARNING!

Risk of fire by easily inflammable label soluble!

⇒ When using label soluble, dust must be completely removed from the print module and cleaned.

10.1 General cleaning

CAUTION!

Abrasive cleaning agents can damage the print module!

⇒ Do not use abrasives or solvents to clean the outer surface of the print module.

⇒ Remove dust and paper fuzz in the printing area with a soft brush or vacuum cleaner.

⇒ Clean outer surfaces with an all-purpose cleaner.

10.2 Cleaning the print roller

A soiled print roll can lead to reduced print quality and can affect transport of material.

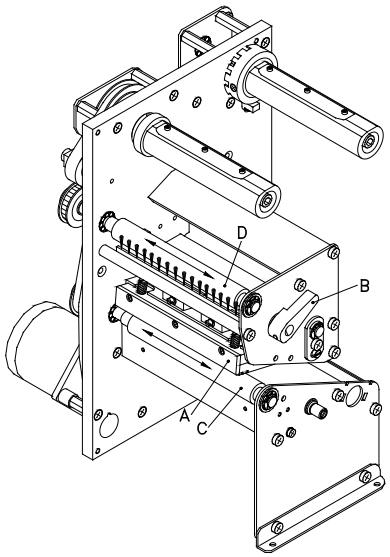


Figure 24

1. Open cover of print module.
2. Turn red lever (B) counter clockwise to lift up the printhead (A).
3. Remove labels and transfer ribbon form the print module.
4. Remove deposits with roller cleaner and a soft cloth.
5. Turn the roller (C) manually step by step to clean the complete roller (only possible when print module is switched off, as otherwise the step motor is full of power and the roller is kept in its position).

10.3 Cleaning the printhead

Printing can cause accumulation of dirt at printhead e.g. by colour particles of transfer ribbon, and therefore it is necessary to clean the printhead in regular periods depending on operating hours, environmental effects such as dust etc.

CAUTION!

Printhead can be damaged!

⇒ Do not use sharp or hard objects to clean the printhead.

⇒ Do not touch protective glass layer of the printhead.

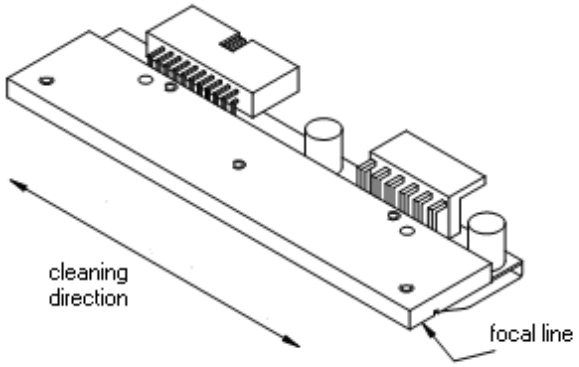


Figure 25

1. Open cover of print module.
2. Turn red lever (B, in Figure 24) counter clockwise to lift up the printhead.
3. Remove labels and transfer ribbon from the print module.
4. Clean printhead surface with special cleaning pen or a cotton swab dipped in pure alcohol.
5. Allow printhead to dry for 2-3 minutes before commissioning the print module.

10.4 Cleaning the label photocell

CAUTION!

Label photocell can be damaged!

⇒ Do not use sharp or hard objects or solvents to clean the label photocell.

The label photocell can become dirtied with paper dust and this can adversely affect label detection.

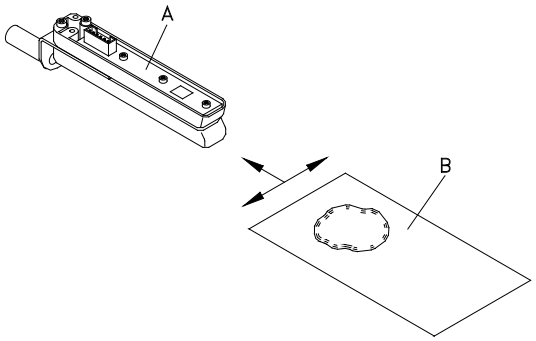


Figure 26

1. Open cover of print module.
2. Turn red lever (B, in Figure 24) counter clockwise to lift up the printhead.
3. Remove labels and transfer ribbon from the print module.
4. Blow out the photocell (A) with pressure gas spray.
   Observe strictly the instructions on the spray can!
5. Clean the label photocell (A) additionally with a cleaning card (B) before soaked in pure alcohol. Move the cleaning card from one side to the other (see illustration).
6. Reload labels and transfer ribbon (see chapter 5 Loading media, on page 33).

10.5 Replacing the printhead (general)

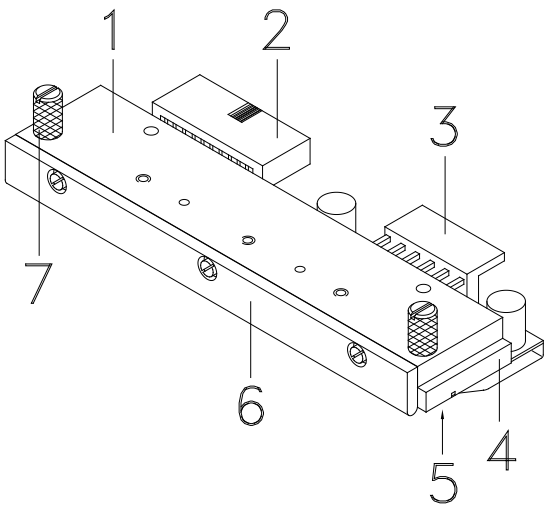


Figure 27

1 Head plate
2 Plug connection signal
3 Plug connection tension
4 Printhead
5 Focal line
6 Guiding
7 Knurled screw

CAUTION!

The printhead can be damaged by static electricity discharges and impacts!

⇒ Set up print module on a grounded, conductive surface.

⇒ Ground your body, e.g. by wearing a grounded wristband.

⇒ Do not touch contacts on the plug connections (2, 3).

⇒ Do not touch printing line (5) with hard objects or your hands.

10.6 Replacing FlatType printhead

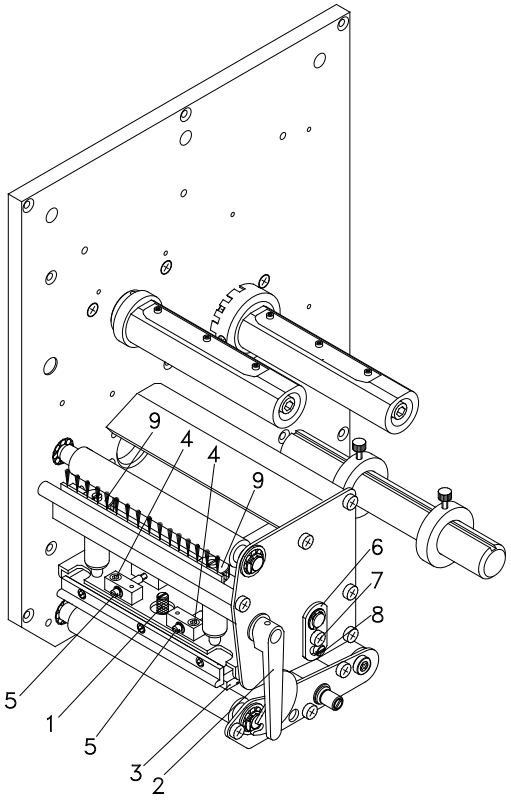


Figure 28

Removing the printhead

1. Remove labels and transfer ribbon from the print module.
2. When printhead is closed, loosen the knurled screws (1).
3. Turn red lever (2) counter clockwise to lift up the printhead.
4. If the printhead (3) is not disengaged on the pressure roller, continue loosen the knurled screws (1).
5. Remove the printhead carefully to the front until you can reach the plug connections.
6. Remove plug connections and then remove printhead (3).

Installing the printhead

1. Attach plug connections.
2. Position printhead in printhead mounting bracket in such a way that the pins are secured in the corresponding holes in the head plate.
3. Lightly keep printhead mounting bracket on the printer roller with one finger and check for correct positioning of the printhead.
4. Screw in screw (4) and tighten it.
5. Reload labels and transfer ribbon (see chapter 5 Loading media, on page 33).
6. Check resistance value on the type plate of printhead and if necessary change the value in the menu 'Service functions/heater resistance'.

10.7 Adjusting FlatType printhead

Parallelism

An important characteristic for a high quality print is the parallelism of the focal line of the thermal printhead to the pressure roll. Because of the fact that the position of focal line of the printhead depends on fluctuations caused by production, it is necessary to adjust the parallelism.

1. Loosen the screws (4, Figure 28) with a hexagon key by approx. ¼ rotations.
2. Adjust the parallelism with the adjusting screws (5, Figure 28).
   Clockwise = printhead moves backwards
   Counter clockwise = printhead moves forwards
3. Adjust the parallelism as long as the printing result comes up to your full expectation.
4. Tighten again screws (4, Figure 28).
5. Start a print order with approx. 10 labels and control the correct passage of transfer ribbon.

Pressure balance right/left

After adjusting parallelism and no even strong pressure exists over the complete print width, by means of a plate (6) you can set the balance as follows:

1. Loosen screw (7, Figure 28) with a screwdriver by approx. ¼ rotations.
2. In order to achieve a pressure balance, turn the excentric bolt (8, Figure 28) as long as the printing result comes up to your full expectation.
3. Tighten again screw (7, Figure 28).
4. Start a print order with approx. 10 labels and control the correct passage of transfer ribbon.

Pressure

Increasing the head contact pressure leads to an improvement of the print image density on the corresponding side and to a shifting of the ribbon feed path in the corresponding direction.

CAUTION!

Damage of printhead by unequal use!

⇒ Change factory settings only in exceptional cases.

The selection of the smallest value can optimise the life cycle of printhead.

1. Turn pressure screws (9, Figure 28) to change the pressure of printhead.
2. Turning the pressure screws (9, Figure 28) as far as they will go in clockwise direction results in a pressure increase of 10N in contrast to the factory setting.
3. Turning the pressure screws (9, Figure 28) exactly one rotation from the right stop position counter clockwise results in the factory settings.

NOTICE!

It is importantly that the knurled button which is coated with protective lacquer is not removed from the pressure screw as otherwise the above mentioned settings are faulty.

10.8 Replacing CornerType printhead

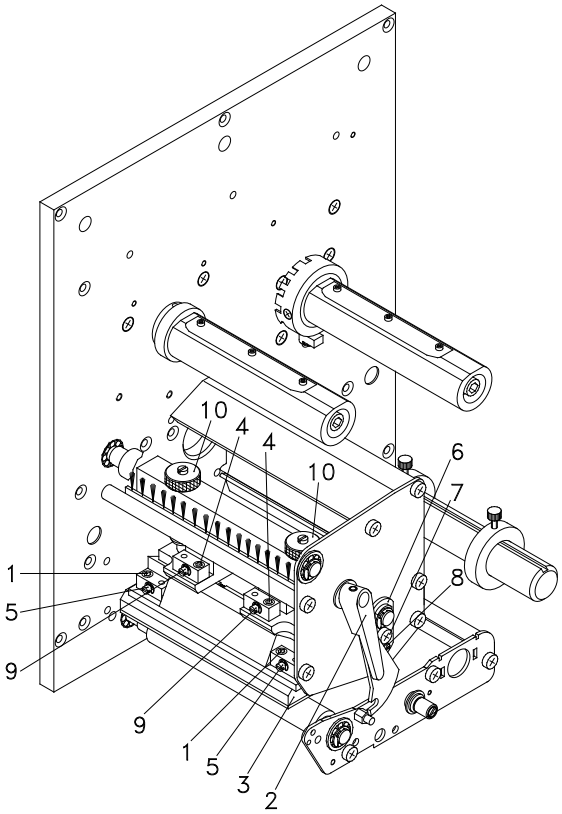


Figure 29

Removing the printhead

1. Remove labels and transfer ribbon from the print module.
2. When printhead is closed, loosen the knurled screws (1).
3. Turn red lever (2) counter clockwise to lift up the printhead.
4. If the printhead (3) is not disengaged on the pressure roller, continue loosen the knurled screws (1).
5. Remove the printhead carefully to the front until you can reach the plug connections.
6. Remove plug connections and then remove printhead (3).

Installing the printhead

1. Attach plug connections.
2. Position printhead in printhead mounting bracket in such a way that the pins are secured in the corresponding holes in the head plate.
3. Lightly keep printhead mounting bracket on the printer roller with one finger and check for correct positioning of the printhead.
4. Screw in screw (1) and tighten it.
5. Reload labels and transfer ribbon (see chapter 5 Loading media, on page 33).
6. Check resistance value on the type plate of printhead and if necessary change the value in the menu 'Service functions/heater resistance'.

10.9 Adjusting CornerType printhead

Parallelism

An important characteristic for a high quality print is the parallelism of the focal line of the thermal printhead to the pressure roll. Because of the fact that the position of focal line of the printhead depends on fluctuations caused by production, it is necessary to adjust the parallelism.

The form of the CornerType printhead needs the setting of parallelism in direction of the adjusting angle and in horizontal position. It needs a little bit of experience to know in which direction you have to adjust the printhead to receive a high quality printing.

1. Loosen the screws (1 or 4, Figure 29) with a hexagon key by approx. ¼ rotations.
2. Adjust the parallelism with the adjusting screws (5 or 9, Figure 29).
   Clockwise = printhead moves backwards
   Counter clockwise = printhead moves forwards
3. Adjust the parallelism as long as the printing result comes up to your full expectation.
4. Tighten again screws (1 or 4, Figure 29).
5. Start a print order with approx. 10 labels and control the correct passage of transfer ribbon.

Pressure balance right/left

After adjusting parallelism and no even strong pressure exists over the complete print width, by means of a plate (6) you can set the balance as follows:

1. Loosen screw (7, Figure 29) with a screwdriver by approx. ¼ rotations.
2. In order to achieve a pressure balance, turn the excentric bolt (8, Figure 29) as long as the printing result comes up to your full expectation.
3. Tighten again screw (7, Figure 29).
4. Start a print order with approx. 10 labels and control the correct passage of transfer ribbon.

Pressure

Increasing the head contact pressure leads to an improvement of the print image density on the corresponding side and to a shifting of the ribbon feed path in the corresponding direction.

CAUTION!

Damage of printhead by unequal use!

⇒ Change factory settings only in exceptional cases.

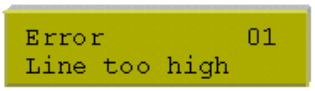
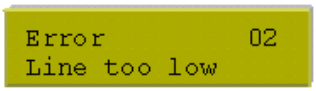
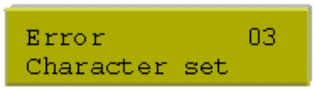
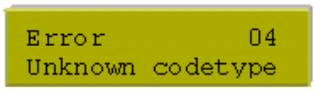
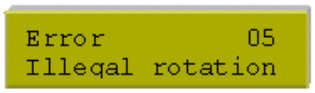
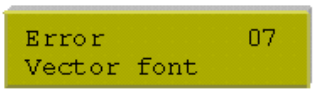
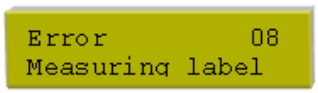
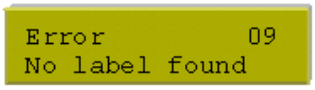
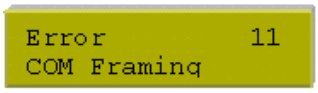
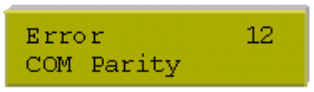
The selection of the smallest value can optimise the life cycle of printhead.

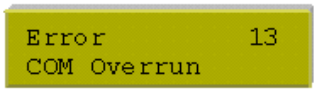
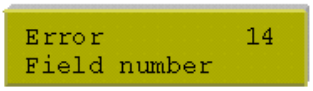
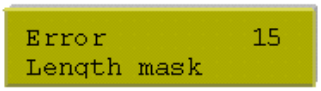
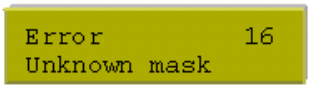
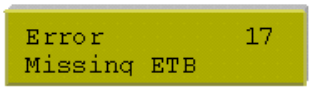
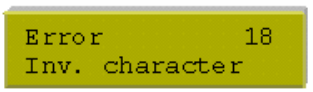
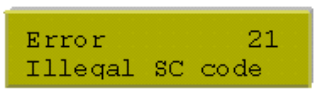
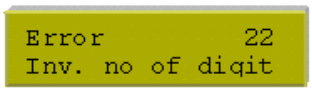
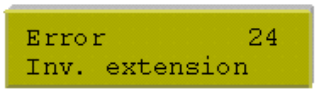
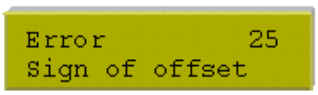
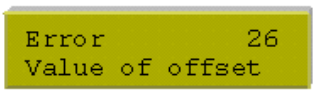
1. Turn pressure screws (10, Figure 29) to change the pressure of printhead.
2. Turning the pressure screws (10, Figure 29) as far as they will go in clockwise direction results in a pressure increase of 10N in contrast to the factory setting.
3. Turning the pressure screws (10, Figure 29) exactly one rotation from the right stop position counter clockwise results in the factory settings.

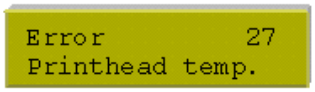
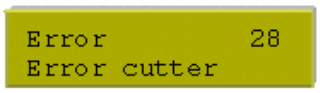
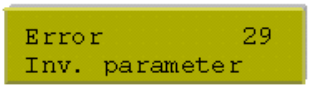
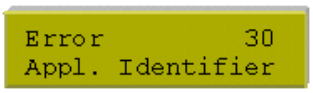
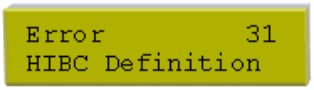
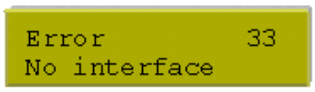
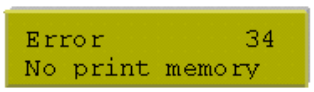
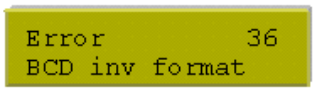
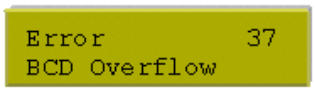
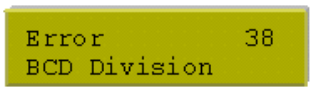
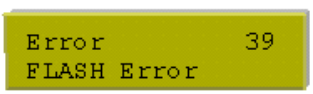
NOTICE!

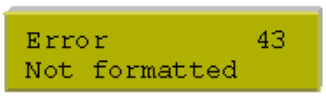
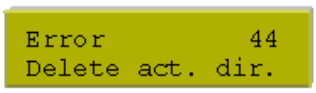
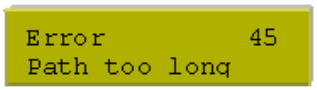
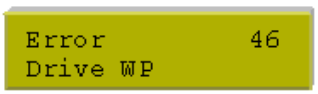
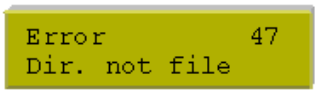
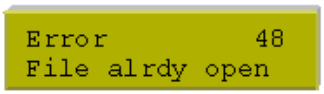
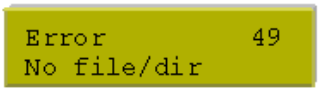
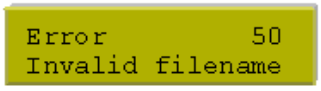
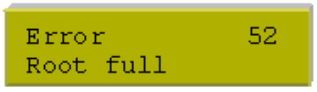
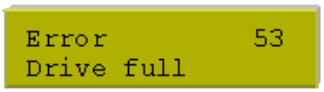
It is importantly that the knurled button which is coated with protective lacquer is not removed from the pressure screw as otherwise the above mentioned settings are faulty.

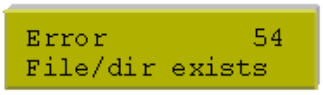
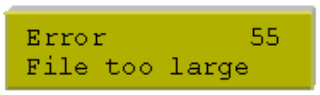
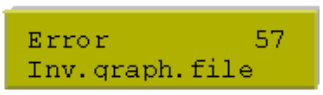
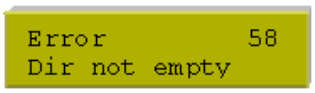
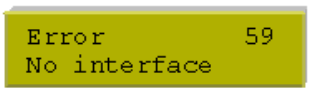
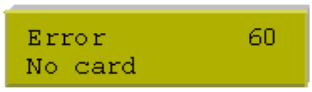
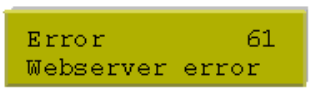
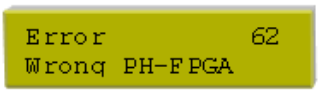
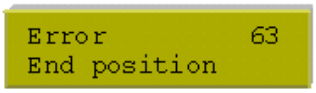
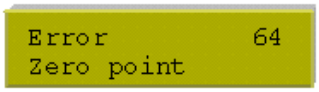
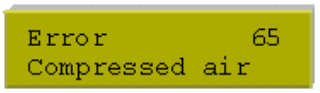
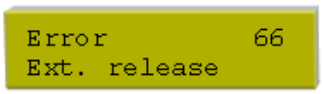
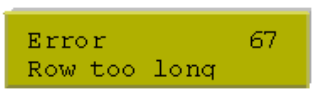
11 Error correction

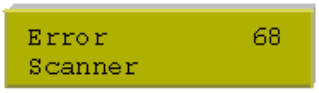
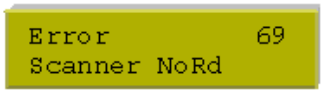
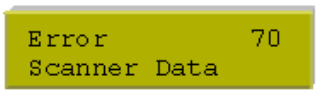
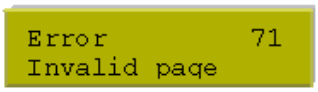
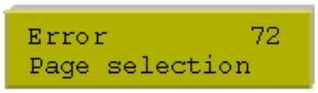
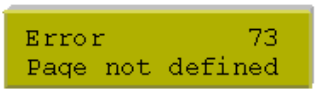
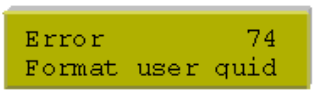
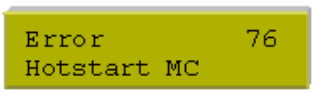
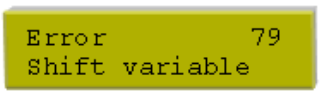
	Line rises up completely or partly over the upper edge of label.	Move line down (increase Y value). Check rotation and font.
	Line rises up completely or partly over the bottom edge of label.	Move line up (reduce X value). Check rotation and font.
	One res. several characters of the text is res. are not available in the selected font.	Change text. Change font.
	Selected code is not available.	Check code type.
	Selected position is not available.	Check position.
	Selected font is not available.	Check font.
	Selected font is not available.	Check font.
	While measuring no label was found. Set label length is too large.	Check label length and if labels are inserted correctly. Restart measuring anew.
	No label available. Soiled label photocell. Labels not inserted correctly.	Insert new label roll. Check if labels are inserted correctly. Clean the label photocell.
	During the print order the ribbon roll becomes empty. Defect at the transfer ribbon photocell.	Change transfer ribbon. Check transfer ribbon photocell (service functions).
	Stop bit error.	Check stop bits. Check baud rate. Check cable (module and PC).
	Parity error.	Check parity. Check baud rate. Check cable (module and PC).

	Loss of data at serial interface (RS-232).	Check baud rate. Check cable (module and PC).
	Received line number is invalid at RS-232 and Centronics.	Check sent data. Check connection PC - module.
	Invalid length of received mask statement.	Check sent data. Check connection PC - module.
	Transferred mask statement is invalid.	Check sent data. Check connection PC - module.
	No end of data found.	Check sent data. Check connection PC - module.
	One res. several characters of the text is res. are not available in the selected font.	Change text. Change font.
	Unknown transferred data record.	Check sent data. Check connection PC - module.
	For check digit control the entered res. received check digit is wrong.	Calculate check digit anew. Check code data.
	Selected SC factor is invalid for EAN res. UPC.	Check SC factor.
	Entered digits for EAN res. UPC are invalid < 12; > 13.	Check number of digits.
	Selected check digit calculation is not available in the bar code.	Check calculation of check digit. Check bar code type.
	Selected zoom factor is not available.	Check zoom factor.
	Entered sign is not available.	Check offset value.
	Entered offset value is invalid.	Check offset value.

	Printhead temperature is too high. Defective printhead sensing device.	Reduce contrast. Change printhead.
	With cut an error occurred. Paper jam.	Check label run. Check cutter run.
	Entered data do not correspond to the characters allowed from the application identifier.	Check code data.
	Selected application identifier is not available in GS1-128 (EAN 128).	Check code data.
	F Missing HIBC system sign. Missing primary code.	Check definition of HIBC code.
	Real Time Clock function is selected but the battery is empty. Defective RTC.	Change battery. Change RTC component.
	Interrupted connection CPU - memory card. Defective memory card interface.	Check connection CPU - memory card interface. Check memory card interface.
	No print memory found.	Check memory assembly on CPU.
	At start of a print order the printhead is open.	Close the printhead and start print order anew.
	BCD error Invalid format for the calculation of Euro variable.	Check entered format.
	BCD error Invalid format for the calculation of Euro variable.	Check entered format.
	BCD error Invalid format for the calculation of Euro variable.	Check entered format.
	Flash component error.	Run a software update. Change CPU.

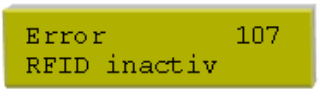
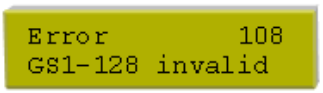
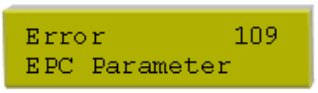
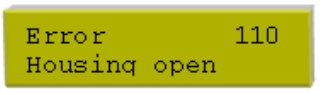
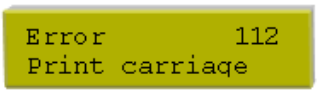
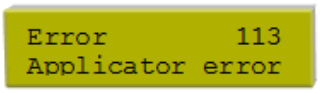
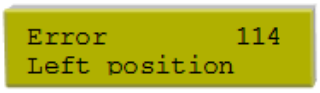
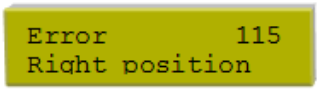
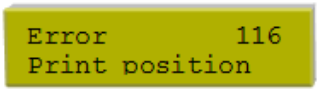
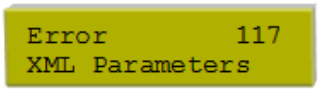
	Invalid length of the received command statement.	Check data sent. Check connection PC - module.
	Memory card not found / not correctly inserted.	Insert memory card correctly.
	Impossible to read memory card (faulty).	Check memory card, if necessary change it.
	Memory Card not formatted.	Format memory card.
	Attempt to delete the actual directory.	Change directory.
	Too long indication of path.	Indicate a shorter path.
	Memory Card is write-protected.	Deactivate write protection.
	Attempt to indicate a directory as file name.	Correct your entry.
	Attempt to change a file during an access is active.	Select another file.
	File does not exist on memory card.	Check file name.
	File name contains invalid characters.	Correct entry of name, remove special characters.
	Internal file system error.	Please contact your distributor.
	The max. number (64) of main directory entries is reached.	Delete at least one main directory entry and create subdirectories.
	Maximum memory capacity is reached.	Use new Memory Card, delete no longer required files.

	The selected file/directory already exists.	Check name, select a different name.
	During copying procedure not enough memory space onto target drive available.	Use a larger target card.
	Errors in update file of firmware.	Start update file anew.
	The selected file does not contain graphic data.	Check file name.
	Attempt to delete a not empty directory.	Delete all files and sub-directories in the desired directory.
	No memory card drive found.	Check connection of memory card drive. Contact your distributor
	No memory card is inserted.	Insert memory card in the slot.
	Error at start of web server.	Please contact your distributor.
	The direct print module is equipped with the wrong FPGA.	Please contact your distributor.
	The label length is too long. The number of labels per cycle is too much.	Check label length res. the number of labels per cycle.
	Defective photocell.	Change photocell.
	Pressure air is not connected.	Check pressure air.
	External print release signal is missing.	Check input signal.
	Wrong definition of column width res. number of columns.	Reduce the column width res. correct the number of columns.

	The connected bar code scanner signals a device error.	Check the connection scanner/module. Check scanner (dirty).
	Bad print quality. Printhead completely soiled or defective. Print speed too high.	Increase contrast. Clean printhead or exchange (if necessary). Reduce print speed.
	Scanned data does not correspond to the data which is to print.	Exchange printhead.
	As page number either 0 or a number > 9 is selected.	Select a number between 1 and 9.
	A page which is not available is selected.	Check the defined pages.
	The page is not defined.	Check the print definition.
	Wrong format for customised entry.	Check the format string.
	Wrong format for date/time.	Check the format string.
	No memory card found.	If option hotstart was activated, a memory card must be inserted. Switch off the printer before inserting the memory card.
	Selection of print of several columns and also mirror/rotate.	It is only possible to select one of both functions.
	Loading of temporary hotstart files.	Not possible.
	Faulty definition of shift times (overlapping times).	Check definition of shift times.
	General RSS bar code error.	Check definition and parameter of RSS bar code.

Error 81 IGP error	Protocol error IGP.	Check sent data.
Error 82 Time generation	Printing creation was still active at print start.	Reduce print speed. Use modules' output signal for synchronisation. Use bitmap fonts to reduce generating time.
Error 83 Transport prot.	Both DPM position sensors (start/end) are active.	Displace zero point sensor Check sensors in service functions menu
Error 84 No font data	Font and web data is missing.	Run a software update.
Error 85 No layout ID	Layout ID definition is missing.	Define layout ID onto the label.
Error 86 Layout ID	Scanned data does not correspond to defined ID.	Wrong label loaded from memory card.
Error 87 RFID no label	RFID unit cannot recognise a label.	Displace RFID unit or use an offset.
Error 88 RFID verify	Error while checking programmed data.	Faulty RFID label. Check RFID definitions
Error 89 RFID timeout	Error at programming the RFID label.	Label positioning. Faulty label.
Error 90 RFID data	Faulty or incomplete definition of RFID data.	Check RFID data definitions.
Error 91 RFID type	Definition of label data does not correspond with the used label.	Check storage partitioning of used label type
Error 92 RFID lock	Error at programming the RFID label (locked fields).	Check RFID data definitions. Label was already programmed.
Error 93 RFID progam.	Error at programming the RFID label.	Check RFID definitions.

Error 94 Scanner timeout	The scanner could not read the bar code within the set timeout time.	
	Defective printhead. Wrinkles in transfer ribbon. Scanner wrong positioned. Timeout time too short.	Check printhead. Check transfer ribbon. Position scanner correctly, corresponding to the set feeding. Select longer timeout time.
Error 95 Scan layout diff	Scanner data does not correspond to bar code data.	Check adjustment of scanner. Check scanner settings / connection.
Error 96 COM break	Serial interface error.	Check settings for serial data transmission as well as cable (module-PC).
Error 97 COM general	Serial interface error.	Check settings for serial data transmission as well as cable (module-PC).
Error 98 No SW PH-FPGA	No printhead-FPGA data available.	Please contact your responsible distributor.
Error 99 Load SW PH-FPGA	Error when programming printhead-FPGA.	Please contact your responsible distributor.
Error 100 Upper position	Sensor signal up is missing (option APL 100).	Check input signals / compressed-air supply.
Error 101 Lower position	Sensor signal down is missing (option APL 100).	Check input signals / compressed-air supply.
Error 102 Vac. plate empty	Sensor does not recognise a label at vacuum plate (option APL 100).	Check input signals / compressed-air supply.
Error 103 Start signal	Print order is active but device not ready to process it.	Check start signal.
Error 104 No print data	Print data outside the defined label. Selection of wrong module type (design software).	Check selected module type. Check selection of left/right version.

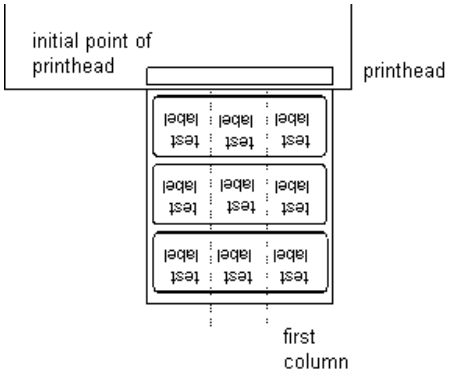
	No original printhead is used.	Check the used printhead. Contact your distributor.
	Wrong Tag type. Tad data do not match the Tag type in the printer.	Adapt data or use the correct Tag type.
	RFID module is not activated. No RFID data can be processed.	Activate RFID module or remove RFID data from label data.
	Transferred GS1-128 (EAN 128) bar code is invalid.	Verify bar code data (see GS1-128 bar code specification).
	Error at EPC calculation.	Verify data (see EPC specification).
	When starting the print order the housing cover is not closed.	Close the housing cover and start the print order anew.
	Transferred EAN.UCC code is invalid.	Verify bar code data (see corresponding specification).
	Printing carriage does not move.	Check gear belt (possibly broken).
	Applicator error.	Check applicator.
	Applicator Left end position	Check LEFT final position switch for correct function and position. Check function of pneumatics for cross traverse.
	Applicator: Right end position	Check RIGHT final position switch for correct function and position. Check function of pneumatics for cross traverse.
	Applicator: Not in print position	Check TOP and RIGHT final position switch for correct function and position. Check function of pneumatics.
	Parameter error XML file.	Please contact your responsible distributor.

12 Additional information

12.1 Column printing

With this print module several columns can be printed, i.e. the information of one column can be printed several times (depending on its width) on a label. Caused by this the use of the complete print width is possible and the generating time is enormously reduced.

For example 4 columns with a width of 25 mm or 2 columns with a width of 50 mm can be printed onto a label with a width of 100 mm. Please note that the first label is always the one with the largest x coordinate, i.e. it has the largest distance to the printhead.



Setting the print of several columns

Press key F to change to the function menu.

Press key → as long as to the 'Label layout' menu.

Press key ● to confirm the selection.

Press key → as long as the menu item (see illustration) appears.

Press key ▲ and ▼ to set the label width. As column width the width of one label is entered, e.g. 20.0 mm.

Press key ◀ and ▶ to enter the number of columns.

Press keys ▲ and ▼ to change the number of columns,

e.g. 4 columns at a label width of 20.0 mm.

Press key ▟ to start a print with indication of number of labels and number of lines. The number of labels corresponds to the number of labels that are to print.

e.g. columns: 3, items: 4

The first four labels were printed but not label 5 and 6.

12.2 Password

Example 1: The supervisor programs a Memory Card directly with the module. He stores 10 different labels. As well he adjusts the print parameters, like contrast, speed, etc. to the corresponding values. The user is only supposed to read the labels from memory card and to print them. Therefore the supervisor blocks the function menu and the entry function by a password.

Example 2: The print module is connected to a PC. The user is only supposed to take the labels dispensed by the print module and stick them on. To prevent, that the labels or the print module set-up will not be changed, the supervisor blocks all print module functions (e.g. function menu, entry menu, etc.) by a password.

Example 3: The user has to change several texts before printing. It is not allowed to change any masks (fonts, position, etc.). Therefore the supervisor blocks the entry of mask and the function menu. By this means the user indeed can print labels, but the print module set-up and the masks of the labels can't be changed.

To receive a most flexible password protection, the print module functions will be divided into several function groups:

1. Function menu: In the function menu the print parameters can be changed (contrast, speed, mode, ...). The password protection prevents modifications at the print settings.

2. Memory Card: With the functions of your Memory Card labels can be stored, loaded, ...

Here the password protection has to separate, if none or only reading functions are allowed.

3. Print functions: With key **quant** a print can be produced. In case the print module is connected to a PC, it can be useful, that the user is not able to produce a print manually. So the password protection prevents that prints can be produced manually.

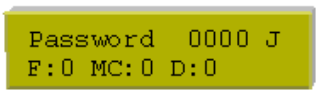
Because of these different function groups the password protection is very flexible. The print module can be adjusted best to its actual order, as only certain functions are blocked.

Define password

In case no password is defined res. the password protection is not activated, all functions can be used. In the function menu you will find the menu item "Password", where the password can be entered and the password protection activated.

Press key → as long as to the 'Password' menu.

Press key ● to confirm the selection.



Meaning of abbreviations:

F	Function menu
MC	Memory Card
D	Print functions

In case the password protection is active, but the function menu is not protected, the password

(4-digit number between 0000 and 9999) has to be entered first, so the above shown display appears. Now changes can be done. In the first line the user can define the password (4-digit number).

Press key ▶ to switch to the next.

Press key ▲ and ▼ to activate/deactivate the password protection (yes/no).

Press key ▶ to change to the second line.

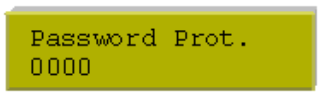
Press key ▲ and ▼ to block/release individual function groups.

(Press key ◀ and ▶ to change from one group to the next one.)

F:	Function menu	0...open 1...locked
MC:	Memory Card	0...open 1...only reading access 2...access blocked
D:	Printer guiding	0...open 1...open 2...no manual print release

Activate blocked function:

In case the user wants to perform a blocked function, he has to enter the valid password first.



The entered password has to be confirmed with **E**. In case the correct password has been entered the desired function can be performed. If the entered password was invalid no error message appears but the main menu will be displayed.

12.3 Hotstart

NOTICE!

Because of the fact that no battery-buffered SRAM is available, the necessary data has to be saved in another way, i.e. the data is saved onto memory card. Therefore the option memory card is a condition for the hotstart menu item.

The function hotstart contains e.g. that in case of a power failure the currently loaded label can be further processed without any loss of data.
Moreover a print order can be interrupted and to be continued after switching on the printer anew.

NOTICE!

At an active hotstart all necessary data is stored on the memory card therefore do not remove the card during operation. When removing during operation, this causes the loss of all data on the memory card.

Saving the current label

In case the hotstart function is set to on, at the start of a print order the data of the current label is saved to the corresponding directory of the memory card.
However the following conditions have to be fulfilled:

- Memory card inserted in drive A
- Memory card not write protected
- Enough free storage space onto memory card
- An error message appears in case these conditions are not fulfilled.

Saving the printer order state

At switching off the printer the state of the current print order is saved to the corresponding directory of the memory card.
However the following conditions have to be fulfilled:

- Memory card inserted in drive A
- Memory card not write protected
- Enough free storage space onto memory card

Loading a label and print order state

In case the hotstart function is set to On, at a new start of printer the saved label data and the print order state is loaded from the corresponding file on the memory card. Because of this reason a memory card has to be inserted at switching on the printer. In case it is impossible to load the data an error message appears.

Starting the print order

In case at switching off the print module a print order was active, then a print start is released automatically and the required res. actual number of printed labels is refreshed.
In case the print order was stopped at switching off the print module, it is again set to the stopped mode after switching on the print module anew.
In case a customized entry was active during switching off the print module, the window for the first customized variable is displayed.

Refreshing the variable counter

As in the intended file only the start values of the counter are saved, they are refreshed at a new start of the print order by means of the number of printed labels. Each counter is counted corresponding from its start value. Afterwards the position of the current and the next counter update are correctly set by means of the update intervals.

NOTICE!

Make sure that in case graphics are onto the label they have to be saved onto memory card.

12.4 Backfeed/delay

Backfeed operating modes

In continuous dispensing mode (IO dynamic continuous, IO static continuous, IO photocell continuous) no optimised backfeed is possible. Because of the fact when changing the print order, then the current label in the offset sector is already printed from the old print order.
With activated double cut no optimised backfeed is possible.
In the sector that is printed when preprint the following label, no date/time variable should be existing, because this could be refreshed before the next start impulse.

Standard

Peel off: After printing the label, it is driven into the dispensing offset and waited there, until the label was removed (photocell) or a new start signal is given (IO dynamic). Afterwards it is again backtracked to the beginning of label and then the next label is printed.

Cutter: After printing the label, it is driven into the cutter offset; the label is cut and then backtracked immediately to the beginning of label (if an operating mode with backfeed is selected). Afterwards the next label is printed, if necessary.

Tear off edge: After printing the last label of a print order it is driven into the tear-off offset and the label res. labels can be taken away. When starting a new print order, first it is backtracked again to the beginning of label and then the next label is printed.
If a following print order is available before driving into the tear-off offset, then it is not driven into tear-off offset but the following label is directly printed.

Automatic

Peel off: After printing the label it is driven into the dispensing offset and then backtracked to the beginning of label either immediately or after the set delay time. When releasing a new start signal (IO dynamic) the next label is immediately printed.

Cutter: This is the same function as for 'backfeed standard' as it is always backtracked immediately to the beginning of label.

Tear off edge: After printing the last label of a print order it is driven into the tear-off offset and then backtracked to the beginning of label either immediately of after the set delay time. When starting a new print order then the next label is immediately printed.
If a following print order is available before driving into the tear-off offset, then it is not driven into tear-off offset but the following label is directly printed.

No backfeed	**Peel off:**	After printing the label it is driven into the dispensing offset and there waited. When releasing a new start signal (IO dynamic) then the next label is immediately printed. Because of the fact that the label is already in the offset, the label is only printed from beginning of offset position, i.e. at the definition of label an accordingly large range must be left free at the top margin of label, because these data are otherwise not printed.
	Cutter:	This is the same function as for 'backfeed standard' as it is always backtracked after cutting immediately to the beginning of label.
	Tear off edge:	After printing the last label of a print order it is driven into the tear-off offset. When starting a new print order, the next label is immediately printed. Because of the fact that the label is already in the offset, the label is only printed from beginning of offset position, i.e. at the definition of label an accordingly large range must be left free at the top margin of label, because these data are otherwise not printed. If a following print order is available before driving into the tear-off offset, then it is not driven into tear-off offset but the following label is directly printed.
Optimised backfeed	**Peel off:**	After printing the label, during driving into dispensing offset the following label is 'pre-printed', if this is already available (generated). When releasing a new start signal (IO dynamic) the already 'pre-printed' label is printed to the end and when driving into the dispenser offset the following label is again 'pre-printed'. In case the following label is not yet available or at the last label of a print order, the dispenser offset is driven as until now, and then for the next label before printing the backfeed to the beginning of label is executed.
	Cutter:	After printing the label, during driving into the cutter offset the following label is 'pre-printed', if this is already available (generated). After the cut it is not backtracked but the already 'pre-printed' label is printed to the end and when driving into the cutter offset the following label is again 'pre-printed'. If the following label is not yet available or at the last label of a print order, the cutter offset is driven as until now, then cut and afterwards the backfeed to the beginning of label is executed.
	Tear off edge:	This is the same function as for 'backfeed standard' as it is only driven into the tear-off offset at the last label of a print order, if no following print order is available.

12.5 Transmission photocells

Transmission photocell normal

For this photocell type the transmitter is at the top res. the receiver at the bottom, i.e. the infra-red light is sent from the top. In this way the label detection is also from the top. This photocell type is used for standard adhesive labels with gap.

Transmission photocell inverse

For this photocell type the transmitter is at the top res. the receiver at the bottom, i.e. the infra-red light is sent from the top. The label detection is, same as for the transmission photocell normal, from the top. However, it is printed differently as for normal photocells, in the translucent place; the print module recognizes the opaque place as gap. This photocell type is used frequently when printing foils.

NOTICE!

When using transmission photocells inverse, the print module must measure a difference of 2.5 V and for reflection photocells inverse 1 V between translucent and opaque material. Otherwise the print module does not recognize a difference between label and gap (bar).

12.6 Ultrasonic photocell (option)

NOTICE!

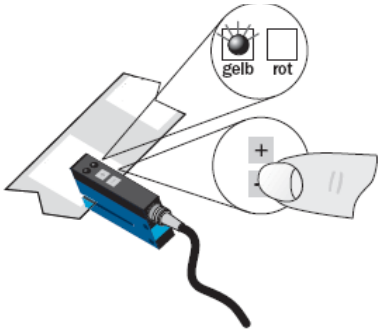
The printer may not be equipped with the option ribbon save.

This photocell type is particularly suitable for the use of transparent labels on transparent backing paper.

NOTICE!

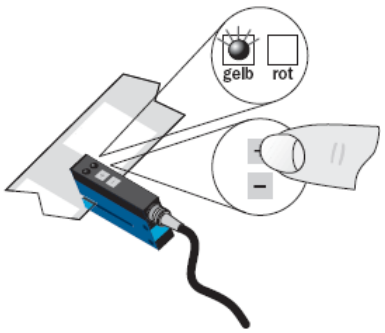
The ultrasonic photocell must be adjusted on the currently used label material.

Adjustment of photocell

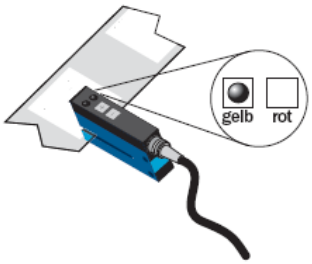


Adjustment of switching point in 'light-switching' mode:
The switching output Q is active if the backing paper is detected between the labels (gap detection).

Position the label between the active surface of the fork sensor (see arrow on sensor). With key − and/or + adjust until the switching output indicator is off.



Position the backing paper in the active area of the fork sensor. The switching output indicator (yellow) must light up again. Otherwise increase the sensitivity with + until the switching threshold is correctly adjusted.



If necessary, adjust the switching point slightly in the other direction.

Sensitivity setting

Slow setting:
Press key + and/or − once.
The red LED lights with each key press.

Fast setting:
Press key + and/or − permanently.
The red LED flashes after 2 seconds.

Light (L) / dark (D) switching

Press key + and − simultaneously for 6 seconds.

The yellow LED changes status and the red LED flashes slowly.

Release keys + and −.

Locking the keys

Press keys + and − simultaneously for 3 seconds to enable/disable the key lock.

Locking the keys:
The red LED goes off after 3 seconds.
Release keys + and − and the red LED lights permanently.

Unlocking the keys:
The red LED lights after 3 seconds.
Release keys + and − and the red LED goes off.

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DRUCKSYSTEME

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