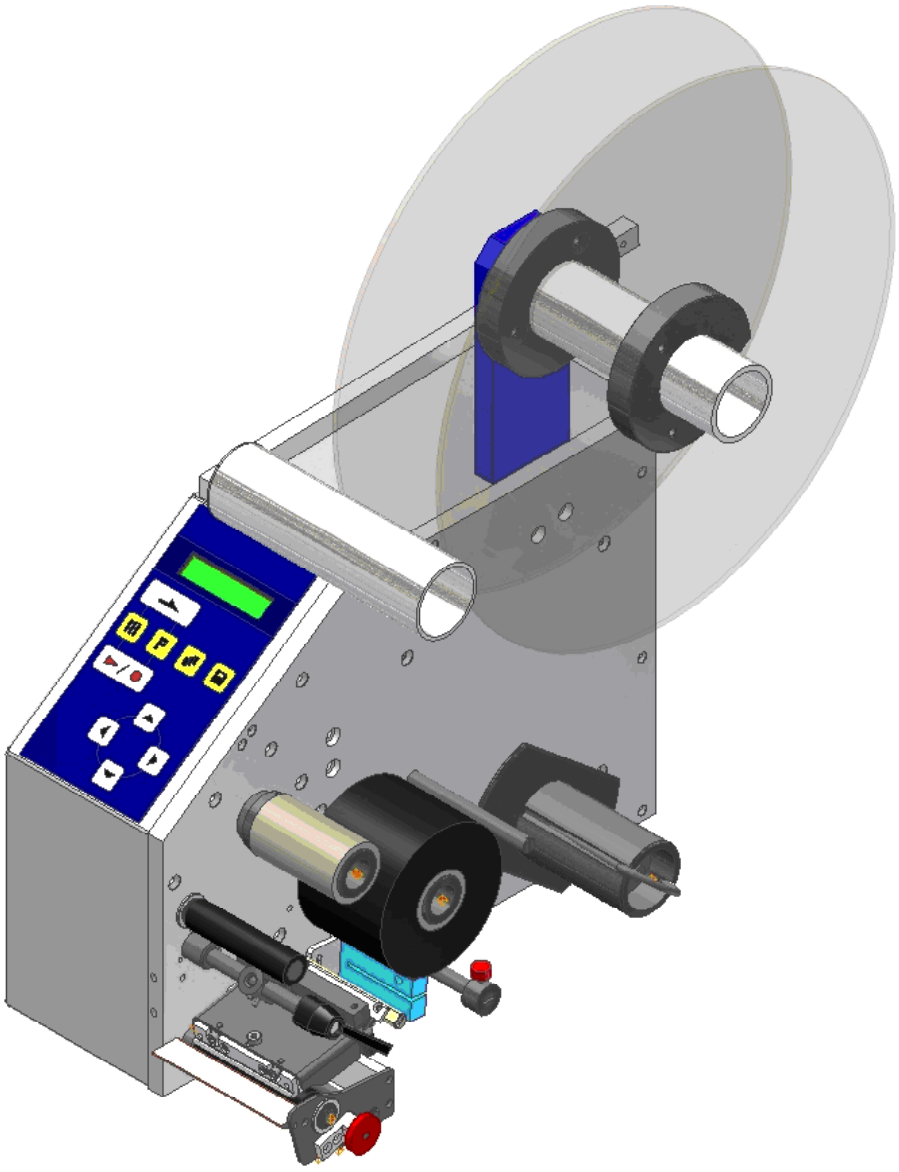
valentin
ETIKETTENDRUCKSYSTEME

Operating manual

ILS series
Industrial Labelling System

June 2010



Carl Valentin print modules comply with the following safety guidelines:

CE EG Low-Voltage Directive (2006/95/EC)
EG Electromagnetic Compatibility Directive (89/336/EEC)

valentin
ETIKETTENDRUCKSYSTEME

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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 6 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 250 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 equipments are obliged to take-back and dispose old equipment which was manufactured after 13 August 2005. In principle, these old equipments may not be delivered to communal collecting points. They may only be organised used and disposed by the manufacturer. Valentin products accordingly labelled can therefore in future be returned to Carl Valentin GmbH.

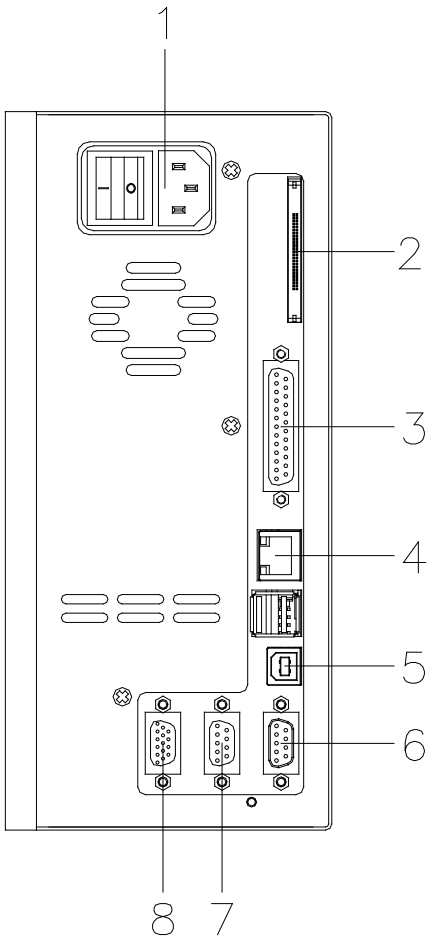
Thereupon old equipment is professionally disposed.

Thereby Carl Valentin GmbH observes all obligations in the context of old equipment disposal in time and makes therewith the smooth selling of products furthermore possible. Please understand that we can only take-back equipment that is send free of carriage charges.

Further information is available from WEEE directive or our web site.

1.3 Connector pin assignment

Rear panel



1 = Power supply
2 = Compact Flash card slot
3 = Parallel interface for Centronics
4 = Ethernet 10/100 interface (optional)
5 = USB interface
6 = RS232 interface
7 = Output I
8 = External bushing I/O-24

Figure 1

2 Safety notes

The direct print module is designed for power supply systems from 110 V to 230 V. Connect the direct print module only to electrical outlets with a ground contact.

Couple the direct 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 direct print module in a dry environment only and do not get it wet (sprayed water, mist etc.).
If the direct print module is operated with the cover open, ensure that clothing, hair, jewellery and similar personal items do not contact the exposed rotating parts.
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. Other tasks may only be performed by trained personnel or service technicians.

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**.

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.

Perform trainings regularly.

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

Only use original spare and exchange 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 non-conducting 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% to −10% of nominal value

Allowable tolerance of power line frequency: +2% to −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

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.

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 to +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 - 5 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 (storage): Min. −20 Max. +60

Relative air humidity % (operation): Max. 80

Relative air humidity % (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

ILS 56-8

Print	
Passage width	60 mm
Min. label width	30 mm
Min. label height	10 mm / 15 mm*
Max. label height	3000 mm
Print width	56 mm
Label material	max. 220 gr/m² (others on demand)
Resolution	203 dpi
Print speed	max. 250 mm/s
Printhead	Flat Type
Text	
Vector fonts	6 free scaleable BITSTREAM® fonts
Bitmap fonts	6
Proportional fonts	6
Font height	min. 1 mm - max. 99 mm
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 (EAN 128), Identcode, ITF 14, Leitcode, Pharmacode, PZN Code, UPC-A, UPC-E	
2D bar codes	
CODABLOCK F, 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	
Interface	
Serial: RS-232C (up to 57600 bauds) Parallel: Centronics USB: 1.1 Ethernet: 10/100 Base-T (optional)	
Labels	
Core diameter	40 mm / 75 mm
Roll diameter	internal rewinder: max. 150 mm
Label sensor	
Transmission and reflexion photocell	
Transfer ribbon	
Core diameter	25.4 mm / 1"
Length	max. 360 m
Dimensions	
width x height x depth (mm)	205 x 485 x 325
Weight	8 kg
Connection values	
Nominal voltage	110-230V~ / 50-60 Hz
Power consumption	max. 165 VA
Operating conditions	
Temperature	5-40 °C
Relative humidity	max. 80% (non-condensing)

* in dispenser mode

ILS 54-12

Print	
Passage width	60 mm
Min. label width	30 mm
Min. label height	10mm / 15 mm*
Max. label height	1200 mm
Print width	54 mm
Label material	max. 220 gr/m² (others on demand)
Resolution	300 dpi
Print speed	max. 250 mm/s
Printhead	Flat Type
Text	
Vector fonts	6 free scaleable BITSTREAM® fonts
Bitmap fonts	6
Proportional fonts	6
Font height	min. 1 mm - max. 99 mm
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 (EAN 128), Identcode, ITF 14, Leitcode, Pharmacode, PZN Code, UPC-A, UPC-E	
2D bar codes	
CODABLOCK F, 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	
Interface	
Serial: RS-232C (up to 57600 bauds) Parallel: Centronics USB: 1.1 Ethernet: 10/100 Base-T (optional)	
Labels	
Core diameter	40 mm / 75 mm
Roll diameter	internal rewinder: max. 150 mm
Label sensor	
Transmission and reflexion photocell	
Transferband	
Kerndurchmesser	25,4 mm / 1"
Länge	max. 360 m
Dimensions	
width x height x depth (mm)	205 x 485 x 325
Weight	8 kg
Connection values	
Nominal voltage	110-230V~ / 50-60 Hz
Power consumption	max. 165 VA
Operating conditions	
Temperature	5-40 °C
Relative humidity	max. 80% (non-condensing)

* in dispenser mode

Standard equipment

- Dispenser
- Date / Time
- Compact Flash card slot
- Integrated unwinder
  (max. outside diameter 300 mm
- Internal rewinder

Optional equipment

- Ethernet interface
- Compact Flash cards
- Label design software Labelstar PLUS

3.1 Control inputs and outputs

Control outputs

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

The signal output is provided by one 9-pin D-SUB bushing (OUTPUT I) on the back side of the control unit.

The signal output consists 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

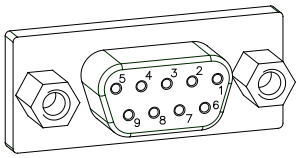
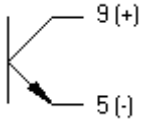
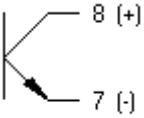
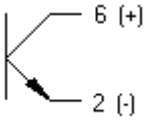
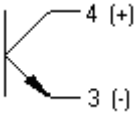


Figure 2

PIN (bushing)	Output I
	Out 1: Error message Each error status such as ribbon error is displayed.
	Out 2: Advance warning for transfer ribbon end and label material end
	Out 3: 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 4: Single print By means of the printhead, the print memory contents is applied to the corresponding medium. If the label arrive the dispenser edge, the signal goes inactive.

Example

Connecting a lamp to a 24V relay by Out 1

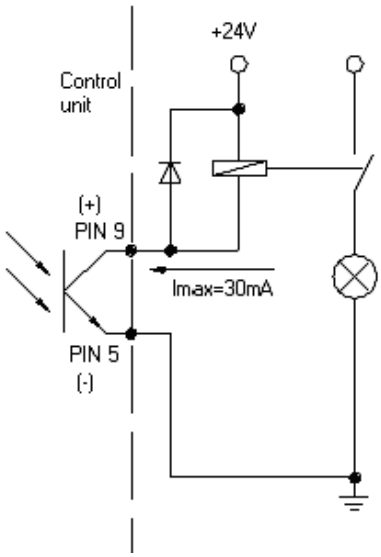


Figure 3

External bushing I/O-24

This input is executed as 15-pole and provides user-sided 24V/100mA.

In case of using this bushing, exists **no electroplating separation**.

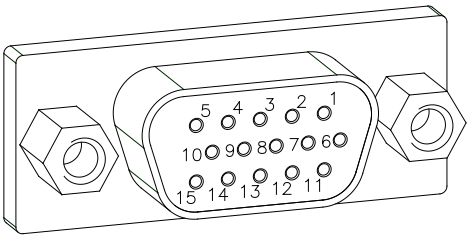
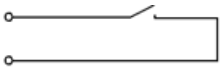
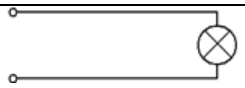
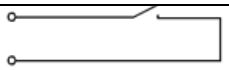
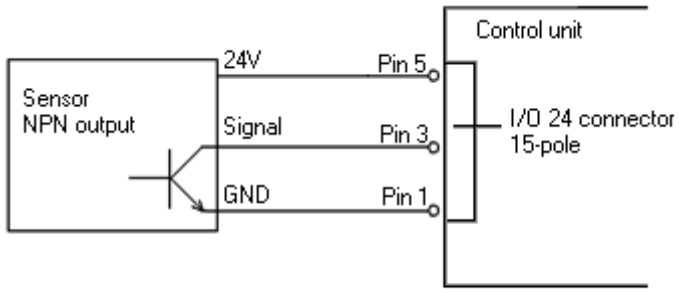


Figure 4

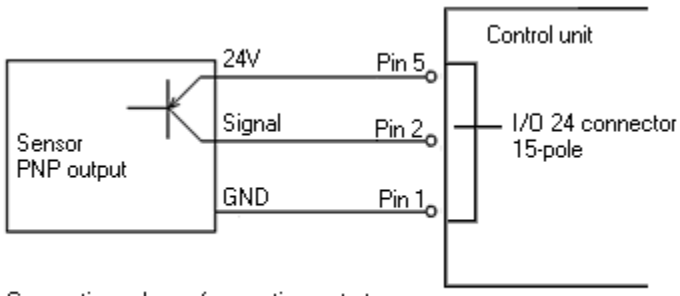
PIN	Function
1, 6	Gnd
5, 10	24 V / 100 mA
3	Print start (NPN initiator)
2	Print start (PNP initiator)
4 14	 Print start by potential-free contact
7 13	 Signal lamp 24 V / 100 mA (error)
9 11	 Input advance warning for label material end

Example 1



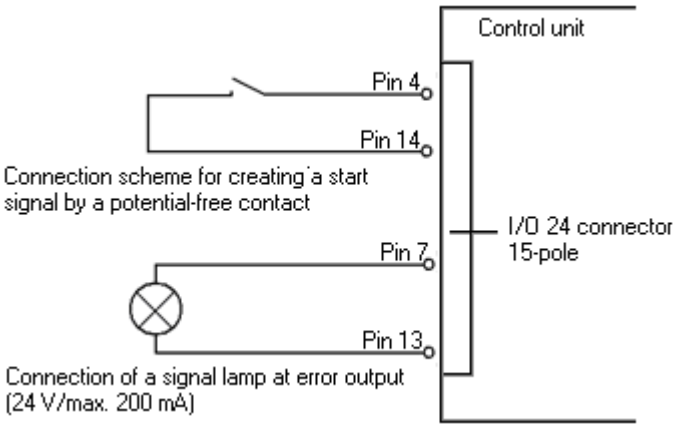
Connection scheme for creating a start signal by a sensor with NPN output

Example 2



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

Example 3


Control unit
Pin 4
Pin 14
Connection scheme for creating a start signal by a potential-free contact
I/O 24 connector 15-pole
Pin 7
Pin 13
Connection of a signal lamp at error output (24 V/max. 200 mA)

3.2 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.

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

4 Installation

Unpack the print module

⇒ 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 module.
- Empty core, mounted on transfer ribbon rewinder.
- Dispenser edge.
- Power cable.
- Documentation.
- CD with printer drivers.

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 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

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, page 25).

Start measuring in menu 'Label layout/Measure label' (see chapter 6.4 Label layout, page 31).

Press key ● to finish measuring.

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.

4.5 Photocell adjustment (option)

In order to guarantee a correct measuring procedure the print module must be switched on but no print order is allowed to be active (speed = 0).

Onto the label material or backing paper, press both keys (+ and −) simultaneously for one second.

The red LED flashes and signalises that a second procedure must be started.

Press key − shortly (onto backing paper or without tactile object).

After the second procedure the red LED goes off.

If the red LED flashes, the procedure was not successful and must be repeated.

Sensitivity setting

Slow setting:
Press key + and/or − once.
Fast setting:
Press key + and/or − permanently.

Locking the photocell

Press key + and − simultaneously for 3 seconds to lock the photocell and to protect it against unintentional adjustment.

Light / dark switching

Press key + and − simultaneously for 6 seconds.
It is possible to select light and dark.
Standard: light.

5 Loading media

5.1 Loading label roll

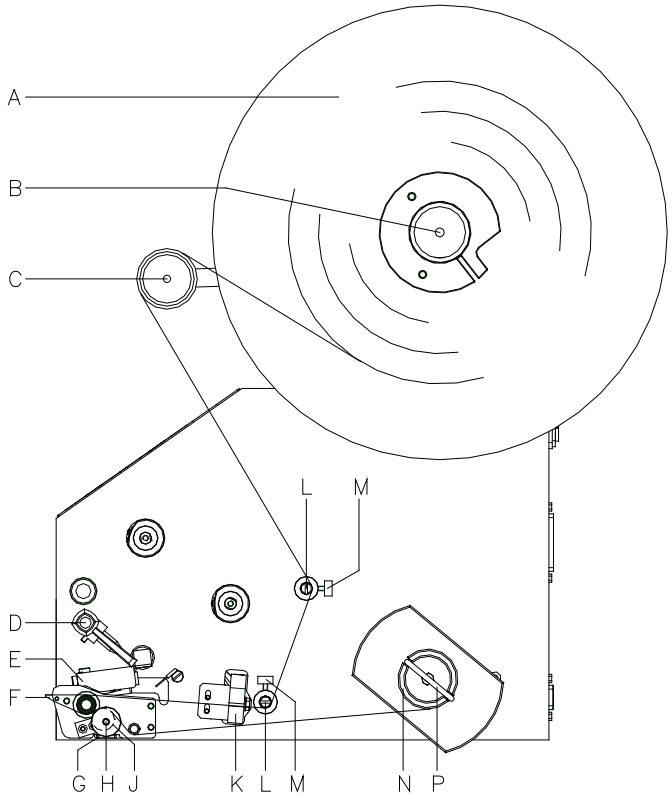


Figure 5

1. Open the printhead (E) by turning the pressure lever (D) anticlockwise.
2. Remove the outer label support (A).
3. Place the label roll with inner winding onto the unwinder (B).
4. Mount again the label support (A).
5. Lead the label material below the label guiding (L). Take care that the labels run through the photocell (K).
6. Pull the knurled knob /H) outwards to unlatch the dispensing condensator (G).
7. Close the printhead (E) by turning the pressure lever (D) in clockwise direction until it locks.
8. Adjust the adjusting rings (M) of the label guiding onto the material width.
9. Strip some labels from the backing paper and lead the material over the dispensing edge (F) and behind the plastic roller (J).
10. Press again the dispensing condensator (G) to the top until it locks.
11. Fix the backing paper at the rewinder (N) with a clamp (P).

5.2 Loading transfer ribbon

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.

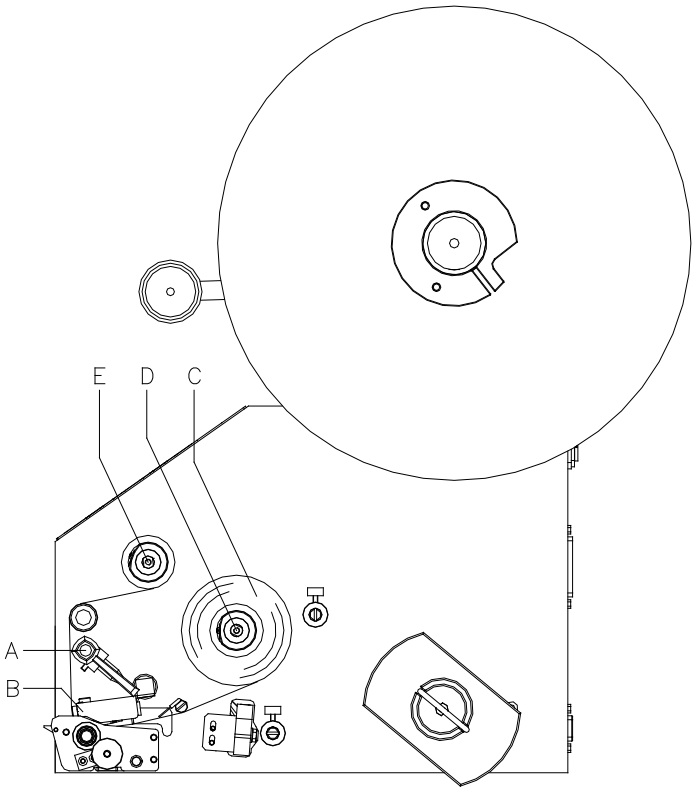


Figure 6

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.

1. Clean printhead before loading the transfer ribbon.
2. Open printhead (B) by turning the pressure lever (A) 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 at the empty core of the rewinding roll (E). Take care of the rotating direction of the transfer ribbon winding anticlockwise.
6. Close the printhead (B) by turning the pressure lever (A) in clockwise direction until it locks.

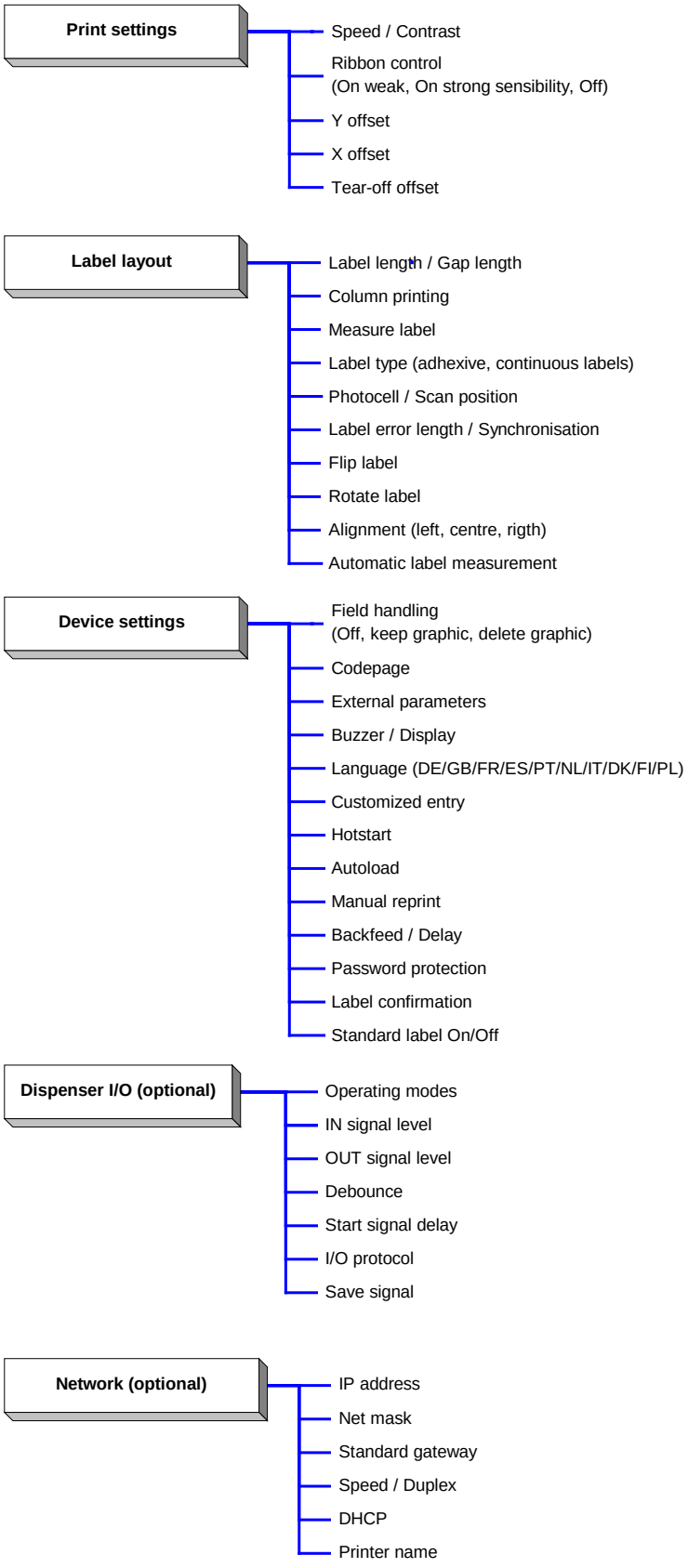
6 Function menu

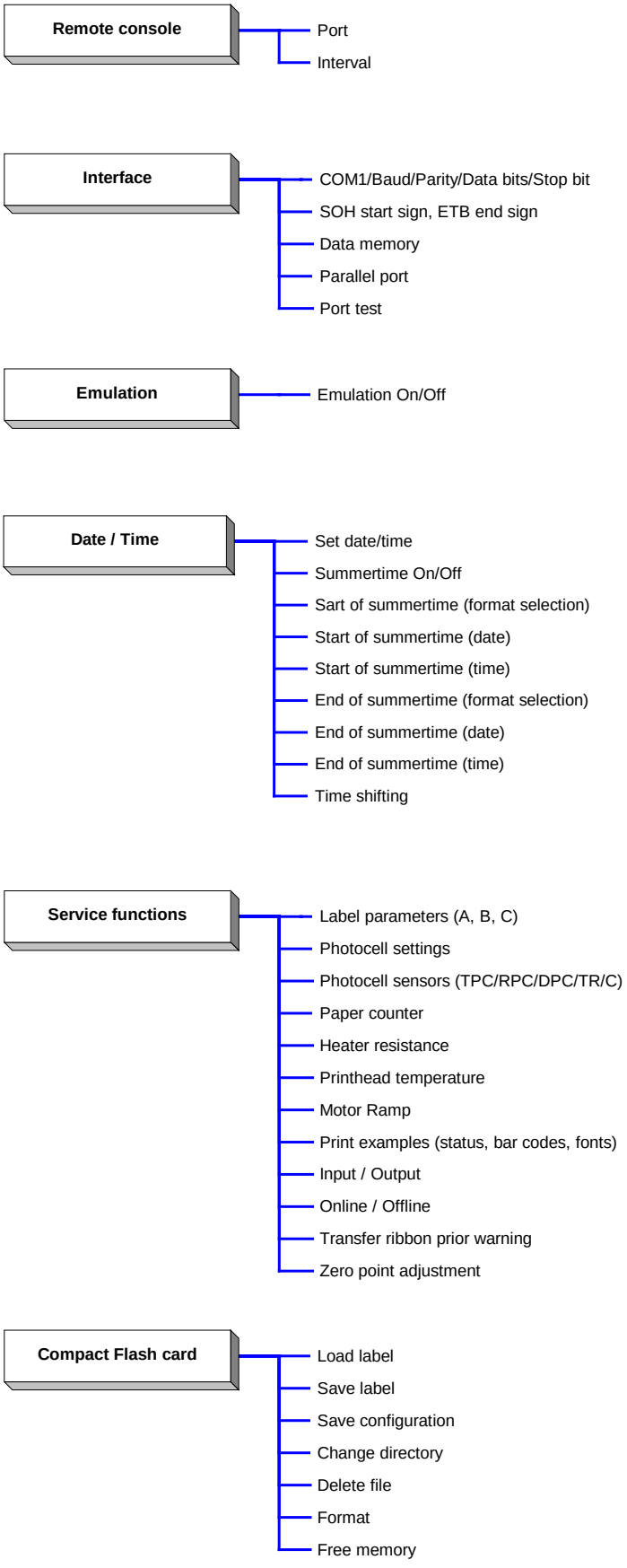
6.1 Keyboard

By means of the printer module's foil keyboard, modifications can be made in the function menu. The adjusted parameters were saved in the print module and are available after switching on the device.

Key	Meaning	Function
|||	Main menu	Return to main menu. Start a test print. Delete a stopped print order.
▲	Upwards	Increase values.
▼	Downwards	Decrease values.
F	Function menu	Change to function menu. In function menu: One menu item back.
◣	Feed	In main menu: One label feed. In function menu: Switch to the next menu item.
●	Start/Stop	Confirm settings in function menu. Stop and continue a 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 the piece number menu. Press keys ▲ and ▼ to select the number of labels to print.
◀	Backwards	Change to the previous input field. Press keys ▲ and ▼ to change values.
▶	Forwards	Change to the next input field. Press keys ▲ and ▼ to change values.

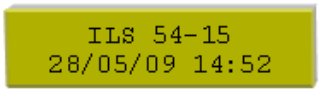
6.2 Function menu




Remote console
Port
Interval
Interface
COM1/Baud/Parity/Data bits/Stop bit
SOH start sign, ETB end sign
Data memory
Parallel port
Port test
Emulation
Emulation On/Off
Date / Time
Set date/time
Summertime On/Off
Sart of summertime (format selection)
Start of summertime (date)
Start of summertime (time)
End of summertime (format selection)
End of summertime (date)
End of summertime (time)
Time shifting
Service functions
Label parameters (A, B, C)
Photocell settings
Photocell sensors (TPC/RPC/DPC/TR/C)
Paper counter
Heater resistance
Printhead temperature
Motor Ramp
Print examples (status, bar codes, fonts)
Input / Output
Online / Offline
Transfer ribbon prior warning
Zero point adjustment
Compact Flash card
Load label
Save label
Save configuration
Change directory
Delete file
Format
Free memory

6.3 Print settings

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

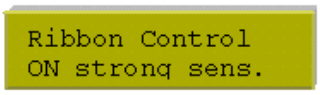


Press key F to access the function menu.

Press key ● to select the menu.

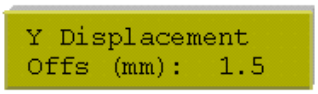
Speed:
Indication of print speed in mm/s.
Value range: 50 mm/s up to 250 mm/s.
Contrast:
Indication of contrast in %.
Value range: 10% to 200 %.
Step size: 10%

Press key ◢ to arrive at the next menu item.



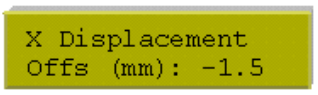
Transfer ribbon control:
Examination if the transfer ribbon roll is to end or if the ribbon was torn at the unwinding roll.
Off: The ribbon control is deselected, i.e. the print module continues without an error message.
On: The ribbon control is selected, i.e. the current print order is interrupted 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.



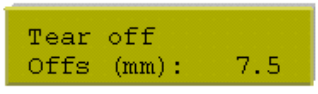
Y displacement:
Indication of initial point displacement in mm. The label is moved vertically.
Value range: −30.0 to +90.0.

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 to +90.0.

Press key ◢ to arrive at the next menu item.

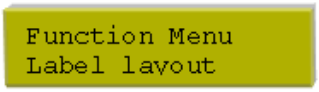


Tear off:
Indication of value to which the last label of a print order is moved forward and is moved back to the label start at a new print start. Labels can be torn after termination of the print order without a loss of labels by tearing.
Default: 13 mm.
Value range: 0 to 70.0 mm.

6.4 Label layout

Press key F to access the function menu.

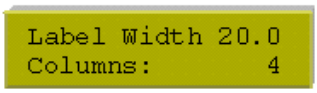
Press key ▁◣ as long as you arrive at the 'Label layout' menu.



Press key ● to select the menu.

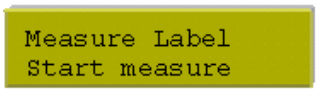
Label:
Indication of label length in mm.
Minimum height: 5 mm (dispenser 25 mm).
Gap:
Indication of distance between two labels in mm
(not for continuous labels).
Minimum value: 1 mm.

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 onto the backing paper (see chapter 11.1 Column printing, page 65).

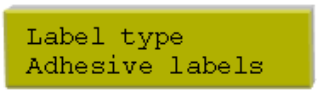
Press key ▁◣ to arrive at the next menu item.



Measure label:

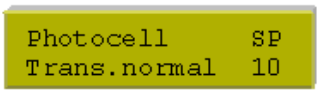
Press key ● to start measuring. The print module stops automatically after termination of measuring. The determined values are displayed and saved.

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.

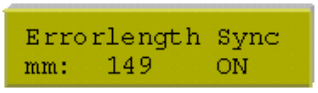


Photocell:
Selection of the used photocell type. Following possibilities are available:
Transmission photocell normal and inverse, Reflexion photocell normal* and inverse*, Transmission photocell normal 2*
(see chapter 11.5, page 72).

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

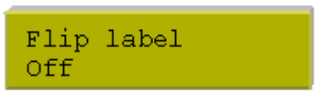
* Option

Press key ◢ to arrive at the next menu item.



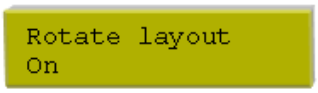
Label error length:
In case an error occurs, indication after how many mm a message appears in the display.
Value range: 1 mm to 999 mm.
Synchronisation:
On: If a label is missed on the liner an error message is displayed.
Off: Missing labels are ignored, i.e. it is printed into the gap.

Press key ◢ to arrive at the next menu item.



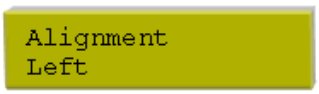
Flip label:
The axis of reflection is in the middle of the label. If the label width was not transferred to the printer, automatically the default label width i.e. the width of the printhead is used. It is recommended to use labels with the same width as the printhead. Otherwise this can cause problems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

Press key ◢ to arrive at the next menu item.



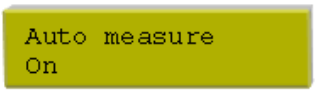
Rotate label:
According to standard the label is printed ahead with a rotation of 0°. If the function is activated, the label is rotated by 180° and printed in reading direction.

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.

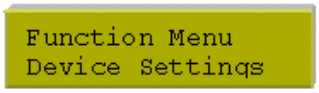


Measure label automatically:
On: After switching on the printer, the loaded label is automatically measured.
Off: In order to start the measurement procedure you have to change to the corresponding menu.

6.5 Device settings

Press key F to access the function menu.

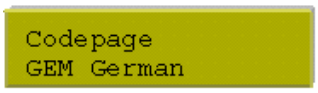
Press key ▬◣ as long as you arrive at the 'Device settings' menu.



Press key ● to select the menu.

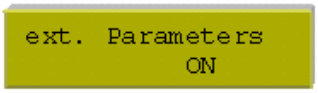
Field handling:
Off: The complete print memory is deleted.
Keep graphic: A graphic res. a TrueType font is transferred to the print module once and stored in the printer internal memory. For the following print order only the modified data is transferred to the print module. The advantage is the saving 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.

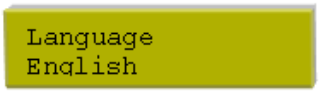


External parameters:
On: Sending parameters such as print speed and contrast via our label creation software to the print module. Parameters which are set directly at the print module before are no longer considered.
Off: Only settings made directly at the print module are considered.

Press key ▬◣ to arrive at the next menu item.

Buzzer:
On: An acoustic signal is audible when pressing a key.
Off: No signal is audible.
Display:
Setting of display contrast.
Value range: 0 to 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 or Polish.

Press key ◢ to arrive at the next menu item.

Customized Entry
On

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 layout.
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
Off

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 11.3 Hotstart, page 68).

Press key ◢ to arrive at the next menu item.

Autoload
On

Autoload:
On: A label which was loaded once from the Compact Flash card can be loaded again automatically after a restart of printer.
Procedure: The used label is saved onto Compact Flash card. The label is loaded from Compact Flash card and printed. After switching the printer Off and again On, the label is loaded from Compact Flash card automatically and can be printed again.

The last loaded label from Compact Flash 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 Compact Flash card.

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

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 11.4 Backfeed/delay, page 70).

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 11.2 Passwor, page 66).

Press key ◢ to arrive at the next menu item.

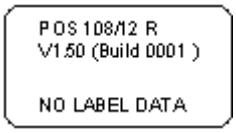
Label confirm.
On

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.

6.6 Remote console

Press key F to access the function menu.

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

Function Menu
Remote Console

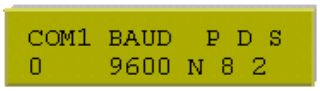
For more information please contact our sales department.

6.7 Interface

Press key F to access the function menu.

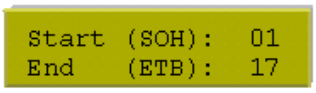
Press key ▬◣ as long as you arrive at the 'Interface' menu.

Press key ● to select the menu.



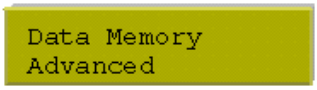
COM1:
0 - serial interface Off.
1 - serial interface On.
2 - serial Interface On, no error message occurs in case of a transmission error.
Baud rate:
Indication of bits which are transferred per second.
Following values are possible: 1200, 2400, 4800, 9600, 19200, 38400 and 57600.
P = Parity:
N - No 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.



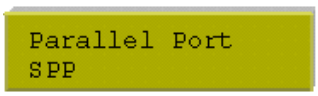
Start sign / Stop sign:
SOH: Start of data transfer block → Hex format 01
ETB: End of data transfer block → Hex formal 17
Two different start / en signs can be set. The settings are normally SOH = 01 HEX and ETB = 17 HEX. Several host computers cannot process these signs and therefore SOH = 5E HEX and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

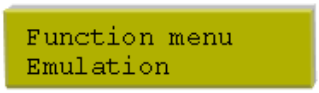
Port test:
Examination of photocell.
To start the port test, press key ▲ and then the received data is printed.

COM1 =	serial interface
LPT =	parallel interface
USB =	Universal Serial Bus interface
TCP/IP =	Ethernet interface

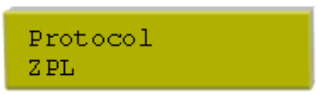
6.8 Emulation

Press key F to access the function menu.

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



Press key ● to select the menu.

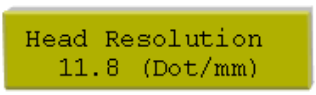


Protocol:
CVPL: Carl Valentin Programming Language
ZPL: Zebra® Programming Language
Change between CVPL protocol and ZPL II® protocol.

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.

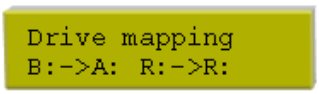
Press key ▶ in menu protocol to arrive at the next menu item.



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).

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:
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

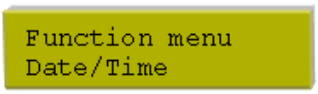
This can be necessary if the available space on the RAM disk (at present. 512 KByte) is not sufficient or if bitmap fonts are downloaded to the printer and be stored permanently.

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

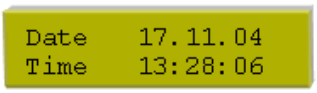
6.9 Date & time

Press key F to access the function menu.

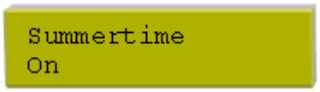
Press key ▁◣ as long as you arrive at the 'Date/Time' menu.



Press key ● to select the menu.

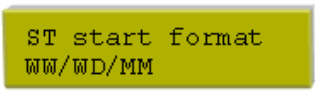


Set date and time:
The upper line of display shows the current date, the second line the current time.
With keys ◀ and ▶ you can change to the next or previous field. With keys ▲ and ▼ you can increase and/or decrease the displayed values.
Press key ▁◣ to arrive at the next menu item.



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.



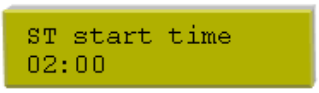
Start of summertime (format):
Select the format in which you want to define beginning summertime.
The above example indicates the default setting (European format).

DD =	day
WW =	week
WD =	weekday
MM =	month
YY =	year
next day =	only the next day is considered

Press key ◢ to arrive at the next menu item.

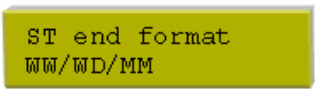
Start of summertime (date):
By means of this function you can enter the date at which summertime has to start. This entry refers to the previously selected format.
Example: summertime is automatically adjusted at last Sunday in March (03).

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.

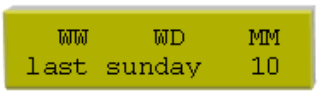
Press key ◢ to arrive at the next menu item.



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).

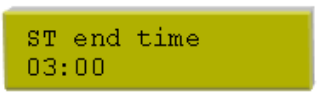
DD =	day
WW =	week
WD =	weekday
MM =	month
YY =	year
next day =	only the next day is considered

Press key ◢ to arrive at the next menu item.



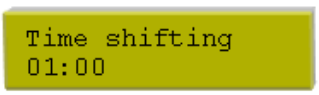
End of summertime (date):
By means of this function you can define the date when you want to stop summertime. The entry refers to the previously selected format.
Example: summertime is automatically adjusted at last Sunday in October (10).

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.

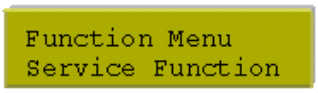
6.10 Service functions

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.

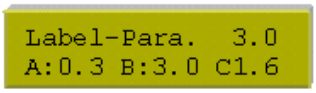
Necessary information such as set parameter can read directly at the print module (see chapter 6.11, page 43).

Press key F to access the function menu.

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



Press key ● to select the menu.

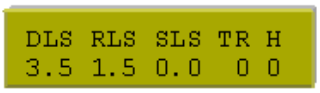


Label parameters:
Indication of label parameters in Volt.
A: Indication of minimum value.
B: Indication of difference between minimum and maximum value.
C: Indication of trigger level. The value is ascertained while measuring and can be changed.

Press key ▲ to arrive at the next menu item.

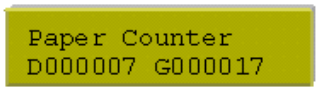
Photocell configuration:
This function enables definition of photocell levels.
In case of problems while positioning or measuring of label, levels for label photocell can be set manually. Make sure that a large hub as possible (label >3 V, gap <1 V) is set.

Press key ▲ to arrive at the next menu item.



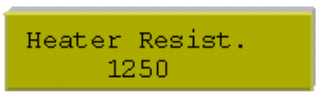
Photocell parameters:
DLS: Indication of transmission photocell level in Volt.
RLS: Indication of reflexion photocell level in Volt.
SLS: Indication of peel off photocell level in Volt.
TR: Indication of transfer ribbon photocell status
(either 0 or 1).
H: Indication of printhead position.
0 = printhead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

Press key ▲ to arrive at the next menu item.



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

Press key ▲ to arrive at the next menu item.

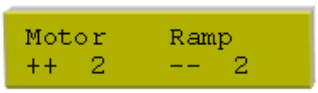


Heater resistance:
To achieve a high print quality, the indicated Ohm value must be set after an exchange of printhead.

Press key ◢ to arrive at the next menu item.

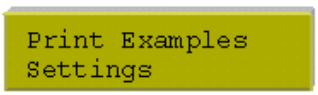
Printhead temperature:
Indication of printhead temperature. The printhead temperature corresponds normally to the room temperature. In case the maximum printhead temperature is exceeded, the current print order is interrupted and an error message appears at the display of control unit.

Press key ◢ to arrive at the next menu item.



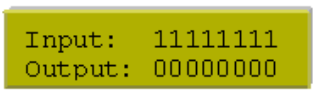
Motor Ramp:
This function is often used for high printing speed as the tearing of transfer ribbon can be prevented.
The higher the '++' value is set, the slower the feeding motor is accelerated.
The smaller the '−−' value is set, the faster the feeding motor is decelerated.

Press key ◢ to arrive at the next menu item.



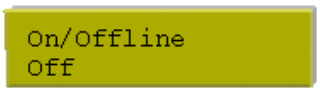
Print examples:
Settings: Printout of all device settings such as speed, label and transfer ribbon material.
Bar codes: Printout of all available bar code types.
Fonts: Printout of all available font types.

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.

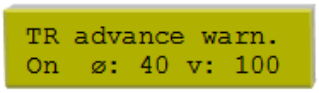


Online/Offline:
This function is activated e.g. if the transfer ribbon is to be changed. It is avoided that a print order is processed although the module is not ready. If the function is activated then press the key ● to change between Online and Offline mode. The respective state is indicated in the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

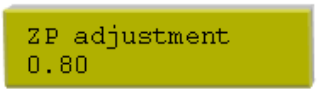
Press key ◢ to arrive at the next menu item.



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 advance 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.

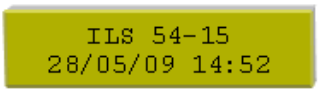


Zero point adjustment:
Indication of value in 1/100 mm.
After replacing the printhead - the print cannot be continued at the same position on the label, the difference can be corrected.

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

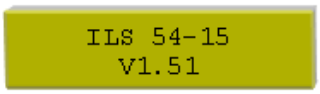
6.11 Main menu

After switching on the print module, the display shows the following:



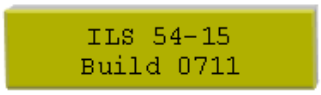
The first line of main menu indicates used model type.
The second line indicates current date and time.

Press key ● for display the following:



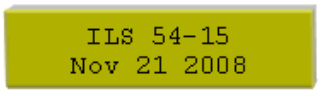
The second line of display indicates version number of firmware. After a short time the indication of display returns automatically to main menu.

Press key ● once more for display the following:



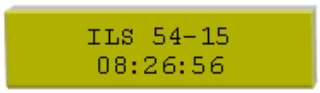
Indication of software Build version.

Press key ● once more for display the following:



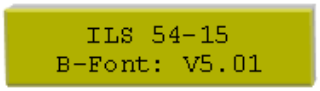
Indication of firmware creation date.

Press key ● once more for display the following:



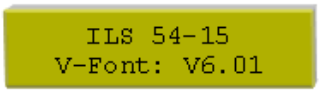
Indication of firmware creation time.

Press key ● once more for display the following:



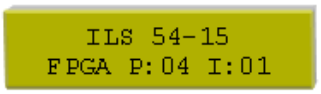
Indication of font version of bitmap fonts.

Press key ● once more for display the following:



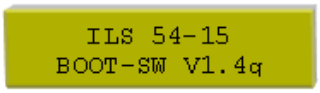
Indication of font version of vector fonts.

Press key ● once more for display the following:



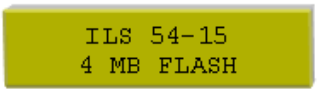
Indication of version numbers of both FPGA
(P = printhead; I = I/O)

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.

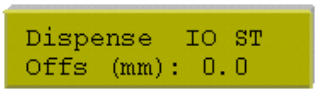
7 Options

7.1 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 (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.

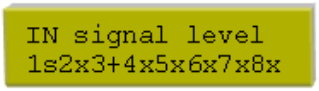
Photocell:
The print module is controlled via photocell. The print module prints automatically a label if the user takes away the label at the dispensing edge. The print order is finished when the target number of labels is reached.

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.

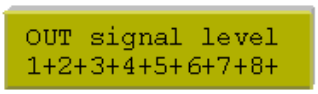


IN signal level:
Indication of signal at which a print order is started.

+ = 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.

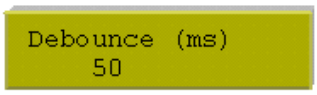
Press key ◣ to arrive at the next parameter.



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

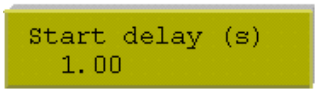
+ = active signal level is 'high' (1)
− = active signal level is 'low' (0)
s = status can be affected by interface*

Press key ◣ to arrive at the next parameter.



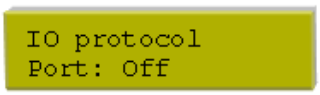
Debounce:
Indication of debounce time of the dispenser input. The setting range of the debounce time is between 0 and 100 ms.
In case the start signal is not clear then you can debounce the input by means of this menu item.

Press key ◣ to arrive at the next parameter.



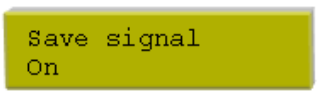
Start signal delay:
Indication in time per second of the delay for the start signal.
Value range: 0.00 to 9.99.

Press key ◣ to arrive at the next parameter.



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

Press key ◣ to arrive at the next parameter.



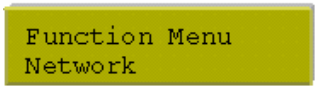
Save signal:
On: The start signal for the next label can already be released during printing the current label. The signal is registered from the print module. The print module starts printing the next label immediately after finishing the current one. Therefore time can be saved and performance be increased.
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.

* in combination with Netstar PLUS

7.2 Network

Press key F to access the function menu.

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



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 Compact Flash card

The print module is equipped at the rear with a Compact Flash card slot. By means of this memory card you can permanently save via interface graphics, text, layout data or information from database.

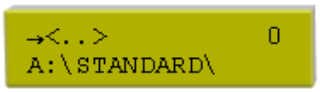
In case of a malfunction of your original memory card we recommend a copy of your most important data. Please use a commercial Compact Flash reader for PC.

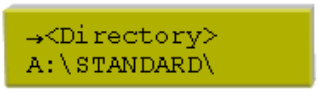
Insertion and removal of Compact Flash card

Insert Compact Flash card with contact side forwards to the slot that was planned for it.
In order to prevent wrong insertion of cards, both sides of Compact Flash cards have different guiding.
A small part of Compact Flash card is visible at the support at the direct print module rear, so you can remove the card easily with hand.

Please note that we support only Compact Flash cards of type 1 at the moment. The use of micro drives is not intended at this time.

File and/or directory name





The direct print module handles your Compact Flash card as a DOS compatible file system.

After formatting Compact Flash card the STANDARD directory is automatically available. After switching on the direct print module or inserting Compact Flash card, this directory is the current one. Main and sub-directories are indicated in <> (e.g. <Directory>).

The maximum length of directory is 254 characters. It is not allowed to use the following characters neither in file nor in directory names: : \ " * / < > ? |

Key functions

Press key to indicate the saved labels onto the Compact Flash card.

Press key F to access the Compact Flash 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 to confirm a query.

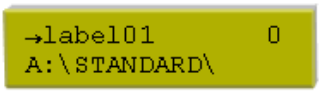
Press key ◀ and ▶ to browse the contents of the current directory.

Press key ▲ and ▼ to change to the indicated directory.

Before first use of Compact Flash card in the print module it is recommend to format the card in the print module.

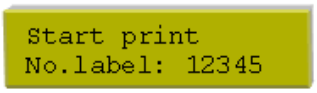
Selecting label

Keys:



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

Press key ● to select the label.



Select the required number of labels.

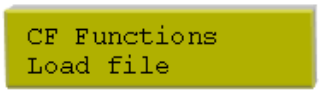
Press key ● to start the print order.

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

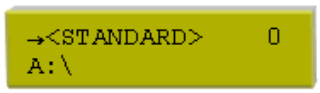
It is NOT possible to change the directory. Enter the menu 'Change dir' to change the directory.

Loading file from Compact Flash card

Keys: , F



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

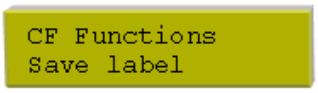


Select the file you want to load and confirm the selection with key ●.

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

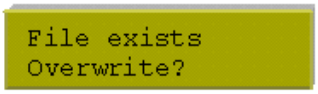
Saving label onto Compact Flash card

Keys: , F, ↵



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

Select the directory and/or label that is to save and confirm the selection with key ●.

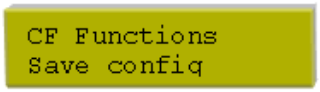


Confirm the query with ● and the label will be saved.

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

Saving the configuration

Keys: 💾, F, ◢, ◢



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

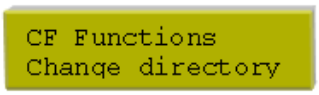
As standard, the proposed file name is config.cfg. This name can be changed by the user. In this file the parameters of print module are saved which are not saved permanent in the internal Flash.

Press key ● to start the saving procedure.

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

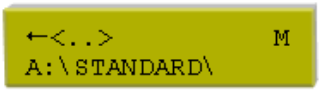
Changing the directory

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.

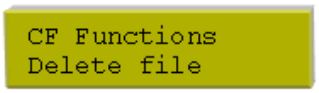
Press key ◀ and ▶ to show all available directories.

Press key ● to confirm the selected directory.

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

Deleting file from Compact Flash card

Keys: 💾, F, ◢, ◢, ◢, ◢



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

Select directory and/or label that is to delete and confirm the selection with key ●.

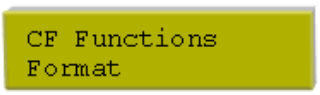
The selected label is deleted from the Compact Flash card.

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

Formatting Compact Flash card

The formatting procedure is recommended before using the Compact Flash card for the first time in the label printer.

Keys: , F, , , , ,



Press key to select the 'Format' menu item.

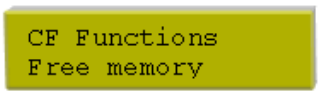
Press key to confirm the selection and the procedure is started.

When formatting the Compact Flash card the STANDARD directory is automatically created.

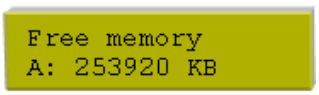
After the formatting procedure the display shows again the 'Load file' menu item.

Indication of free memory space

Keys: , F, , , , , ,



Press key to select the 'Free memory' menu item.



The still available memory space onto Compact Flash card is indicated.

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

9 Cleaning

DANGER!

Risk of death by electric shock!

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

Cleaning schedule

Task	Frequency
General cleaning (see section 9.1).	As necessary.
Cleaning print roller (see section 9.2).	Each time the label roll is changed or when the printout and label transport are adversely affected.
Cleaning printhead (see section 9.3).	**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.

WARNING!

Risk of fire by easily inflammable label soluble!

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

9.1 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.

1. Remove dust and paper fuzz in the printing area with a soft brush or vacuum cleaner.
2. Clean outer surfaces with an all-purpose cleaner.

9.2 Printer roller cleaning

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

1. Open the printhead by turning the pressure lever anticlockwise.
2. Remove labels and transfer ribbon from the print module.
3. Remove deposits with roller cleaner and a soft cloth.
4. If the roller shows damages, replace it.

9.3 Printhead cleaning

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!

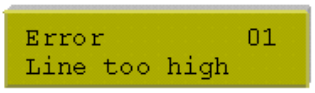
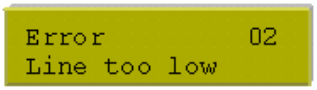
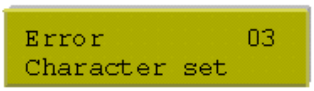
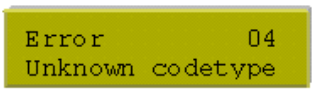
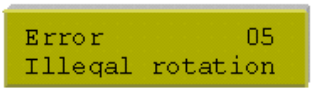
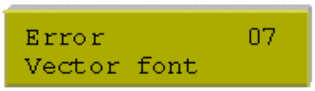
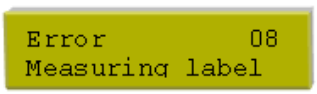
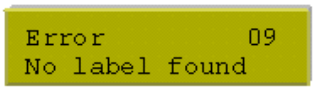
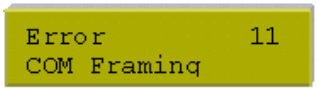
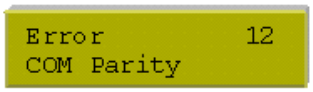
Printhead can be damaged!

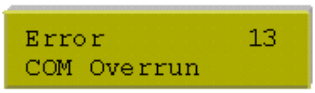
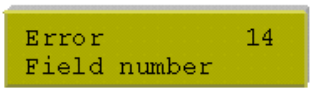
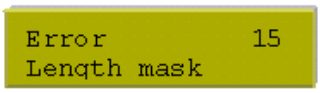
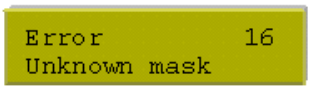
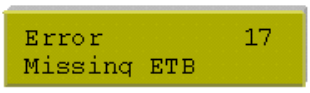
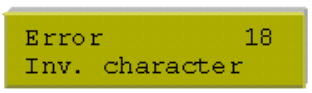
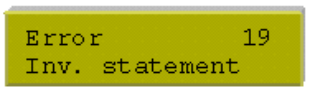
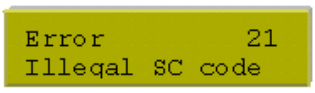
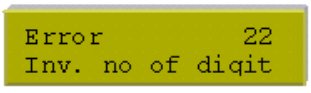
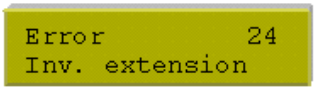
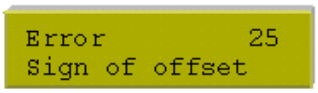
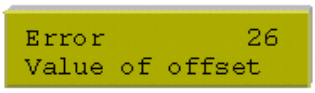
⇒ Do not use sharp or hard objects to clean the printhead.

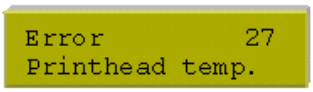
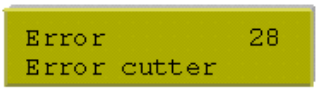
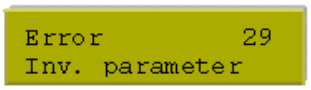
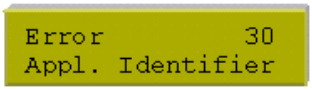
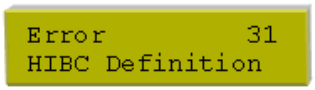
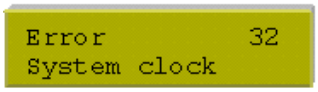
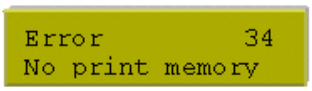
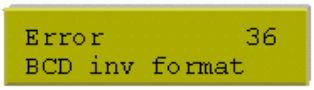
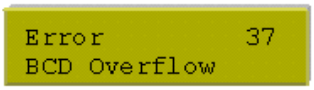
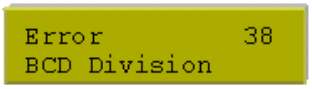
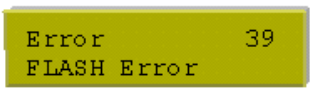
⇒ Do not touch protective glass layer of the printhead.

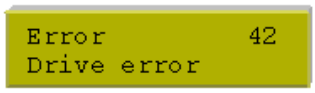
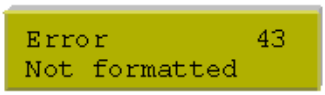
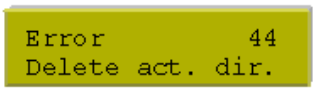
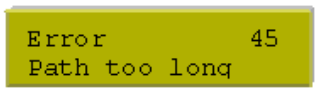
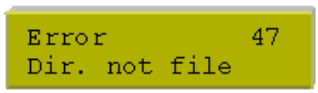
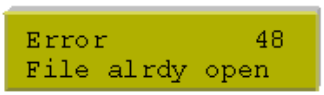
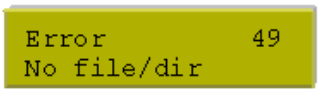
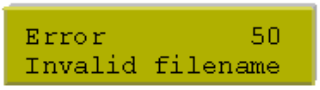
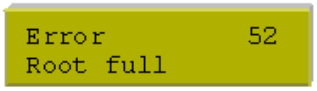
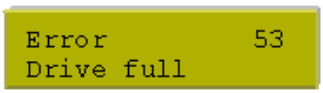
1. Open the printhead by turning the pressure lever anticlockwise.
2. Remove labels and transfer ribbon from the print module.
3. Clean printhead surface with special cleaning pen or a cotton swab dipped in pure alcohol.
4. Allow printhead to dry for 2-3 minutes before commissioning the print module.

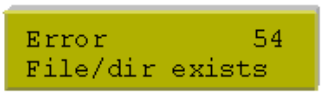
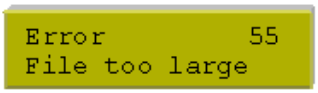
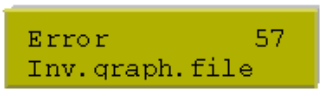
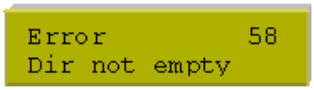
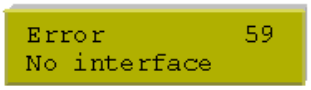
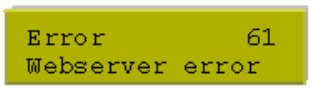
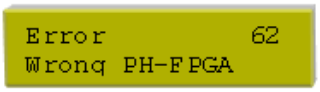
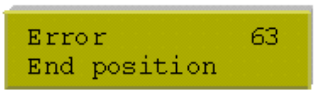
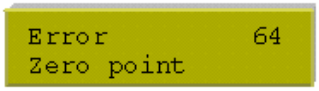
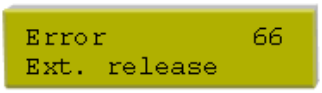
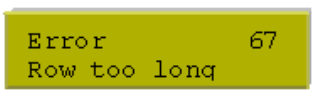
10 Error correction

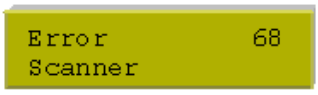
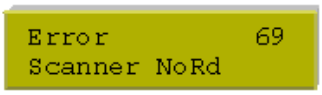
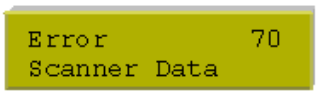
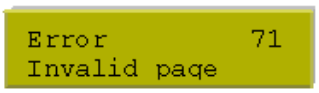
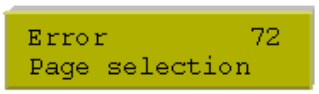
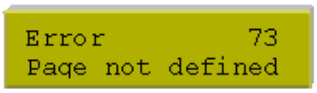
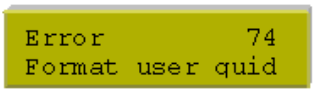
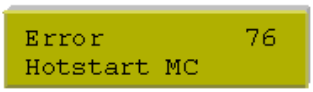
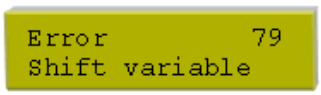
	Line rises up completely or partly over the upper edge of label.	Move line down (increase Y value). Check rotation and font.
	Line rises up completely or partly over the bottom edge of label.	Move line up (reduce X value). Check rotation and font.
	One res. several characters of the text is res. are 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).

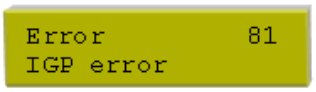
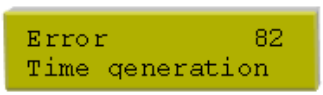
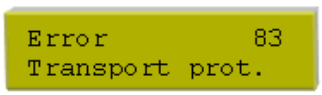
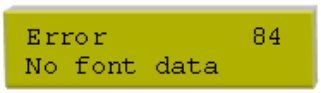
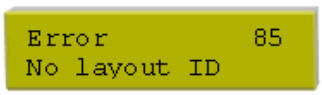
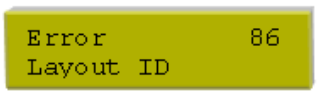
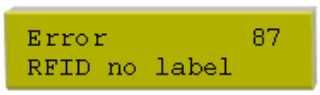
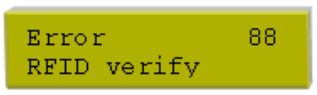
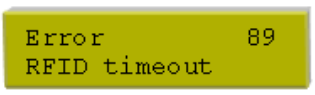
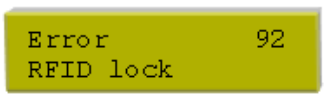
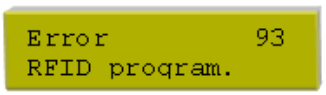
	Loss of data at serial interface (RS-232).	Check baud rate. Check cable (module and PC).
	Received line number is invalid at RS-232 and Centronics.	Check sent data. Check connection PC - module.
	Invalid length of received mask statement.	Check sent data. Check connection PC - module.
	Transferred mask 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.

	Protocol error IGP.	Check sent data.
	Printing creation was still active at print start.	Reduce print speed. Use modules' output signal for synchronisation. Use bitmap fonts to reduce generating time.
	Both DPM position sensors (start/end) are active.	Displace zero point sensor Check sensors in service functions menu
	Font and web data is missing.	Run a software update.
	Layout ID definition is missing.	Define layout ID onto the label.
	Scanned data does not correspond to defined ID.	Wrong label loaded from memory card.
	RFID unit cannot recognise a label.	Displace RFID unit or use an offset.
	Error while checking programmed data.	Faulty RFID label. Check RFID definitions
	Error at programming the RFID label.	Label positioning. Faulty label.
	Faulty or incomplete definition of RFID data.	Check RFID data definitions.
	Definition of label data does not correspond with the used label.	Check storage partitioning of used label type
	Error at programming the RFID label (locked fields).	Check RFID data definitions. Label was already programmed.
	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.

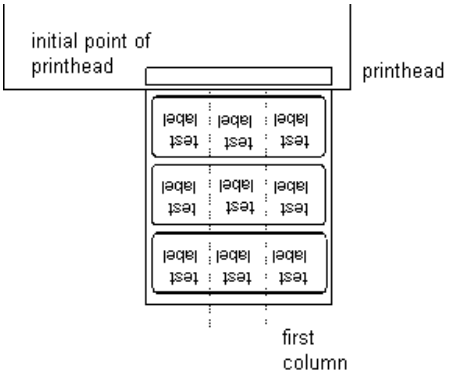
Error 105 Printhead	No original printhead is used.	Check the used printhead. Contact your distributor.
Error 106 Invalid Tag type	Wrong Tag type. Tad data do not match the Tag type in the printer.	Adapt data or use the correct Tag type.
Error 107 RFID inactiv	RFID module is not activated. No RFID data can be processed.	Activate RFID module or remove RFID data from label data.
Error 108 GS1-128 invalid	Transferred GS1-128 (EAN 128) bar code is invalid.	Verify bar code data (see GS1-128 bar code specification).
Error 109 EPC Parameter	Error at EPC calculation.	Verify data (see EPC specification).
Error 110 Housing open	When starting the print order the housing cover is not closed.	Close the housing cover and start the print order anew.
Error 111 EAN.UCC Code	Transferred EAN.UCC code is invalid.	Verify bar code data (see corresponding specification).
Error 112 Print carriage	Printing carriage does not move.	Check gear belt (possibly broken).
Error 113 Applicator error	Applicator error.	Check applicator.
Error 114 Left position	Applicator Left end position	Check LEFT final position switch for correct function and position. Check function of pneumatics for cross traverse.
Error 115 Right position	Applicator: Right end position	Check RIGHT final position switch for correct function and position. Check function of pneumatics for cross traverse.
Error 116 Print position	Applicator: Not in print position	Check TOP and RIGHT final position switch for correct function and position. Check function of pneumatics.
Error 117 XML Parameters	Parameter error XML file.	Please contact your responsible distributor.

11 Additional information

11.1 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 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.

11.2 Password

Example 1

The supervisor programs a Compact Flash card directly with the direct print module. He stores 10 different labels. As well he adjusts the printer 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 printer is connected to a PC. The user is only supposed to take the labels dispensed by the printer and stick them on. To prevent, that the labels or the printer set-up will not be changed, the supervisor blocks all printer 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 printer set-up and the masks of the labels can't be changed.

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

1. Function menu

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

2. Compact Flash card

With the functions of your Compact Flash card labels can be stored, loaded, ...
Here the password protection has to separate, if none or only reading functions are allowed.

3. Print functions

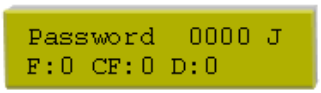
With key quant a print can be produced. In case the printer is connected to a PC, it can be useful, that the user is not able to produce a print manually. So the password protection prevents that prints can be produced manually.

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

Password definition

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
CF	Compact Flash card functions
D	Print functions

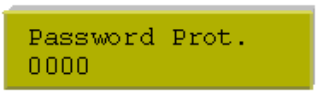
In case the password protection is active, but the function menu is not protected, the password
(4-digit number between 0000 and 9999) has to be entered first, so the above shown display appears. Now changes can be done. In the first line the user can define the password (4-digit number).

Press key ▶ to continue.
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
CF:	Compact Flash 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.

11.3 Hotstart

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.

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.

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

11.4 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.

11.5 Photocells

When using reflection photocells you should observe that the label printer cover is closed and in this way other light (e.g. working lamp) on the photocell is prevented.

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.

Reflexion photocell normal

For this photocell type the transmitter and receiver are at the bottom, i.e. the light is reflected by the label and taken over from the receiver. This photocell type is used for white (light) continuous labels with a black (dark) bar. The bar is the separator, i.e. it indicates the position of gap and in this way the label start.

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 label printer recognizes the opaque place as gap. This photocell type is used frequently when printing foils.

Reflexion photocell inverse

For this photocell type the transmitter and receiver are at the bottom, i.e. the light is reflected by the label and taken over from the receiver. This photocell type is used for black (dark) continuous labels with a white (light) bar. This bar is the separator, i.e. it indicates the position of gap and in this way the start of label.

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

Transmission photocell normal 2

This optional fork sensor is an optoelectronic sensor which works with a sender and receiver unit.

This photocell type is particularly suitable for the use of optical, non-contact detection of objects, labels and marks.

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