valentin
ETIKETTENDRUCKSYSTEME

Pica II Series
OPERATING MANUAL

March 2012

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Carl Valentin label printers comply with the following safety guidelines:

CE   EG Low-Voltage Directive (2006/95/EC)
EG Electromagnetic Compatibility Directive (2004/108/EC)

Table of Contents

1   Introduction

1.1   General Instructions

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

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.

NOTICE gives you tips. They make a working sequence easier or draw attention to important working processes.

Gives you tips on protecting the environment.

$\Longrightarrow$ Handling instruction

✱   Optional accessories, special fittings

Time   Information in the display

1.2   Intended Use

The label printer 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 label printer or other property could be damaged while operating the device.

The label printer 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 label printer 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.

NOTICE!

The complete documentation is included in the scope of delivery on CD ROM and can also currently be found in the internet.

1.3 Environmentally-Friendly Disposal

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

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

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

Further information on the WEEE directive is available on our website.

1.4 Connector Pin Assignment (Printer Rear)

1 - LED orange
    Lighting = Connection active
    Flashing = Data transfer
    Off = No connection

2 - LED green
    Lighting: Speed 100 MBit
    Off: Speed 10 MBit
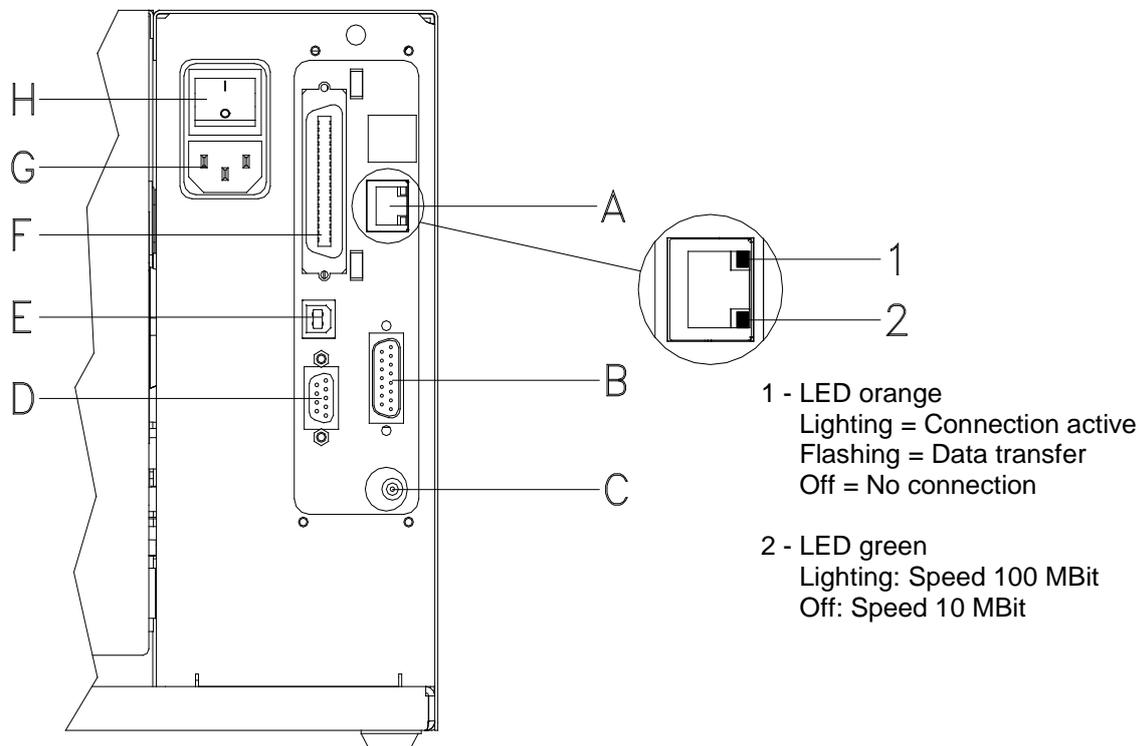
Figure 1

A   Ethernet 10/100 Interface
B   External Output/Input (Option)
C   Winder Connection
D   Serial Interface RS-232
E   USB Interface
F   Centronics
G   Power Supply
H   Switch On/Off

2   Safety Instructions

The label printer is configured for a voltage of 230 V. It has to be plugged into a grounded socket only.

Couple the label printer to devices using extra low voltage only.

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

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

In case of cleaning and maintenance with an open printer cover, 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. Any work beyond this may only be performed by the manufacturer or upon agreement with the manufacturer.

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

Other unauthorized work or modifications to the direct print module can endanger operational safety.

Always have service work done in a qualified workshop, where the personnel have the technical knowledge and tools required to do the necessary work.

There are warning stickers on the direct print modules that draw your attention to dangers. Therefore the warning stickers are not to be removed as then you and others cannot be aware of dangers and may be injured.

DANGER!

Danger to life and limb from power supply!

$\Longrightarrow$ Do not open the printer casing.

2.1   Warning Instructions

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 printers.

Therefore please carefully read these operating conditions.

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

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

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

Operation of printer is only allowed by especially trained persons.

NOTICE!

Perform trainings regularly.
Content of the training are chapter 2.2 (Operating Conditions), chapter 5 (Loading Media) and chapter 9 (Maintenance and Cleaning).

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

Only use original spare and exchange parts.

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

Instructions for lithium battery

CPU of printer 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 printer the battery has to be disposed in either case separately from printer.

DANGER!

Danger of life by explosion!

$\Longrightarrow$ Use non-conducting tools.

Conditions for installation place

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

The printers have to be installed to ensure optimal operation and servicing.

**Installation of
power supply**

The installation of the power supply to connect our printers 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 printers 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 printers.

- In case of problems please connect capacity-decoupled isolation transformer or similar interference suppressor in front of our printers.

**Stray radiation and
immunity from
disturbance**

Emitted interference according to EN 61000-6-4: 01-2007 industrial sector

- Interference voltage to wires according to EN 55022: 05-2008

- Interference field power according to EN 55022: 05-2008

- System perturbation according to EN 61000-3-2: 04-2006

- Flicker according to EN 61000-3-3: 09-2008

Stray radiation and immunity from disturbance

Immunity to interference according to EN 61000-6-2: 2005 industrial sector

- 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, ENV 50204: 03-1995

- 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: 08-2004

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

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)
    USB - 5 m
    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. +35

Ambient temperature °C (storage): Min. −20 Max. +60

Relative air humidity % (operation): Max. 80

Relative air humidity % (storage): Max. 80
(bedewing of printers 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 printers.

- 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 printers 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 printers.

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 printer 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

	Pica II 104/8	Pica II 106/12	Pica II 103/8 T	Pica II 108/12 T
Print Resolution	200 dpi	300 dpi	203 dpi	300 dpi
Max. Print Speed	100 mm/s	100 mm/s	100 mm/s	100 mm/s
Print Width	104 mm	105,7 mm	104 mm	108,4 mm
Passage Width	110 mm	110 mm	110 mm	110 mm
Printhead	Flat Type[1]	Flat Type[1]	Flat Type[2]	Flat Type[2]
Labels				
Labels/Continuous Material	Rolls, Fan-Fold, Paper, Cardboard, Textile, Synthetics			
Max. Material Weight	220 g/m² (larger on demand)			
Min. Label Width	15 mm			
Min. Label Height				
Standard	6 mm			
Cutter/Dispenser Mode	15 mm			
Max. Label Height				
Standard	750 mm (higher on demand)		650 mm (higher on demand)	
Option Ethernet	650 mm		450 mm	
Max. Roll Diameter				
Internal Unwinder	180 mm			
External Unwinder	300 mm			
Core Diameter	40 mm / 75 mm (Option)			
Winding	Outside or Inside			
Label Sensor				
Standard	Transmission			
Option	Transmission + Reflexion from above / from below			
Transfer Ribbon	(for thermal transfer printer only)			
Ink	outside or inside (option)			
Max. Roll Diameter	Ø 70 mm			
Core Diameter	25,4 mm / 1″			
Max. Length	300 m			
Max. Width	110 mm			
Dimensions (mm)				
Width x Height x Depth	230 x 230 x 350			
Weight	9 kg			
Electronics				
Processor	High Speed 32 Bit			
RAM	16 MB			
Battery Cache	For Real Time Clock (Storage of Data with Shut-Down)			
Warning Signal	Acoustic Signal when Error			
Interfaces				
Serial	RS-232C (max. 115200 Baud)			
Parallel	Centronics (SPP)			
USB	2.0 High Speed Slave			
Ethernet (Option)	10/100 Base T, LPD, RawIP-Printing, DHCP, HTTP, FTP			
WLAN (Option)	Card 802.11b/g WEP/WPA PSK (TKIP)			
Operation Data				
Power Supply	230 V / 50-60 Hz 2 A 115 V / 50-60 Hz 3 A (Option) Voltage Setting by an internal Voltage Selector Pre-Adjustment: 230 V			
Max. Power Consumption	150 VA			
Operating Temperature	5-35 °C			
Max. Humidity	80% (Not condensing)			

[1] Thermal Transfer
[2] Thermal Direct

Operation Panel	
Keys	Test Print, Status Print, Feed, Enter
LCD Display	Graphic Display 132 x 64 Pixel Green Backlight
Monitoring	
Stop Printing If	Transfer Ribbon End End of Label
Status Print	Extensive status print with information about settings e.g. print length counter, runtime counter, photocells, interface and network parameters Printout of all internal fonts and supported bar codes
Fonts	
Font types	6 Bitmap fonts 6 Vector fonts/TrueType fonts (300 dpi only) 6 proportional fonts other fonts on demand
Character sets	Windows 1250 up to1257, DOS 437, 850, 852, 857 all West and East European Latin, Cyrillic, Greek, Hebrew and Arabic characters are supported (option) Other character sets on demand
Bitmap fonts	Size in width and height 0,8-5,6 Zoom 2-9 Orientation 0°, 90°, 180°, 270°
Vector fonts/TrueType fonts	6 BITSTREAM® fonts Size in width and height 1-99 mm Variable zoom Orientation 360° in steps of 90°
Font attributes	Depending on character font Bold, Italic, Inverse, Vertical
Font width	Variable
Bar Codes	
1D Bar Codes	CODABAR, Code 128, Code 2/5 interleaved, Code 39, Code 39 extended, Code 93, EAN 13, EAN 8, EAN ADD ON, GS1-128, Identcode, ITF 14, Leitcode, Pharmacode, PZN Code, UPC-A, UPC-E
2D Bar Codes	CODABLOCK F, DataMatrix, GS1 DataMatrix, MAXICODE, PDF 417, QR Code
Composite Bar Codes	GS1 DataBar Expanded, GS1 DataBar Limited, GS1 DataBar Omnidirectional, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, GS1 DataBar Truncated
	All bar codes are variable in height, module width and ratio. Orientation 0°, 90 °, 180° and 270°. Optionally with check digit and human readable line.
Software	
Configuration	ConfigTool
Process Control	Netstar PLUS
Label Design Software	Labelstar LITE Labelstar PLUS
Windows Driver	Windows XP 32/64 Bit, Windows Server 2003 (R2) 32/64 Bit, Windows Vista 32/64 Bit, Windows Server 2008 32/64 Bit, Windows 7 32/64 Bit, Windows Server 2008 R2 64 Bit

Standard equipment

- Tear-Off Edge

- Real time clock with printout date and time
  Automatic daylight saving time
  Storage of data with shut-down

- Integrated Rewinder
  (max. outside diameter 180 mm

- Thermal Direct or Thermal Transfer Version

- USB Interface

- Windows Printer Driver on CD ROM

- Labelstar LITE on CD ROM

Optional equipment

- Cutter Unit

- Dispenser Unit with Photocell

- Dispenser Unit without Photocell

- Label Photocell
  (transmission and reflexion from above / from below)

- External Rewinder for Labels

- External Rewinder for Backing Paper

- Ethernet Interface

- WLAN Interface

- Dispenser I/O

3.1   Control Inputs and Outputs

By means of a maximum of 16 control inputs and outputs which, in the following, are also referred to as ports, different functions of the printer system can be triggered and operating states can be displayed.

The ports are provided by means of a D-Sub bushing (26pin HD) at the rear panel of the printer system and are galvanically isolated from protective earth (PE) by means of an optocoupler semi-conductor route.

Each port can be configured as input and as output. This function however, is predefined in the printer software and cannot be changed by the user.
The following parameters can be changed and set by using the menu: debounce times and high or low active.
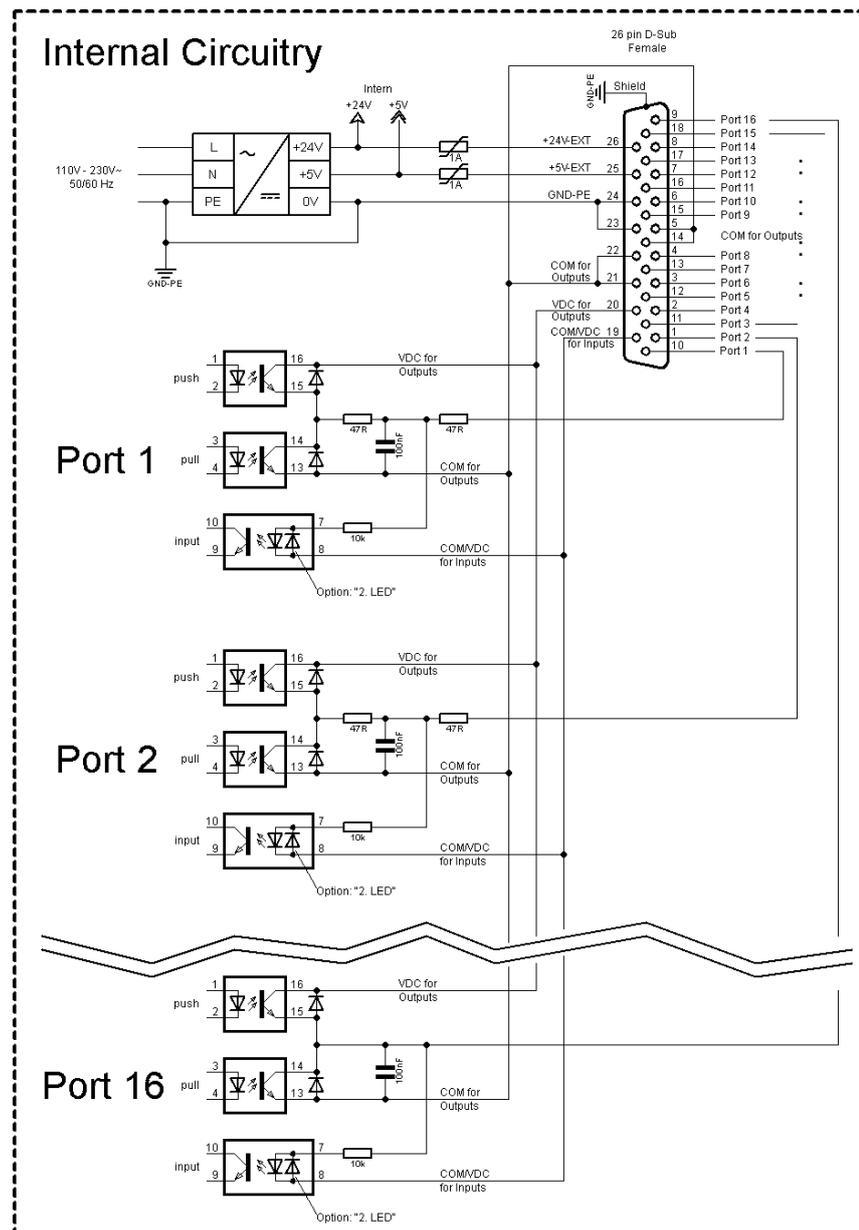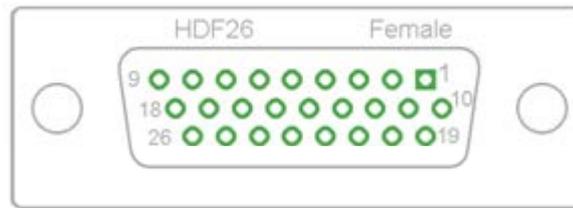
Printer, internal circuitry

Figure 2

**Configuration of
D-Sub socket**

Figure 3

| Identification	Pin	Description / Function
Port 1	10	Print start (Input)
Port 2	1	Cut (Input)
Port 3	11	Counter Reset (Input)
Port 4	2	External synchronisation of label position (Input)
Port 5	12	No function
Port 6	3	No function
Port 7	13	No function
Port 8	4	No function
Port 9	15	Error (Output)
Port 10	6	Print order activ (Output)
Port 11	16	Label available at dispensing photocell (Output) in print mode dispensing photocell
Port 12	7	Single print (Output)
Port 13	17	Ready (Output)
Port 14	8	RFID error (Output)
Port 15	18	Scanner: bar code not readable (Output) - option scanner only
Port 16	9	Prior warning for transfer ribbon end (Output)
COM/VDC for Inputs	19	Common reference potential of all control inputs. 'COM/VDC for Inputs' is usually connected with the (-) terminal of the control voltage and the control inputs are switched to active (+). By means of the option '2nd LED', 'COM/VDC for Inputs' can optionally be connected with the (+) terminal of the control voltage. Then, the control inputs are switched to active (-).
VDC for Outputs	20	Common supply connection of all control outputs. 'VDC for Outputs' must be connected with the (+) terminal of the control voltage. Never leave 'VDC for Outputs' open even if no output is used.
COM for Outputs	5,14 21,22	Common reference potential of all control outputs. 'COM for Outputs' must be connected with the (-) terminal of the control voltage. Never leave 'COM for Outputs' open even if no output is used.
GND-PE	23,24	'GND-PE' is the reference potential of the '+5 VDC EXT' and '+24 VDC EXT' voltages provided by the printer system. 'GND-PE' is printer internally connected with protective earth (PE).

Identification	Pin	Description / Function
+ 5 VDC EXT	25	5 Volt DC output for external use. Max. 1 A. This voltage is provided from direct print module and can be used e.g. as control voltage. Never apply any external voltage to this output.
+ 24 VDC EXT	26	24 Volt DC output for external use. Max. 1 A. This voltage is provided from direct print module and can be used e.g. as control voltage. Never apply any external voltage to this output.

Technical data

Plug Connector	
Type	D-Sub connector High Density 26-pin. / connector
Manufacturer	W+P-Products
Reference number	110-26-2-1-20
Output Voltages (connected with GND-PE)	
+ 24 V / 1 A	Fuse: Polyswitch / 30 V / 1 A
+ 5 V / 1 A	Fuse: Polyswitch / 30 V / 1 A
Port 1 - 15	
Input	
Tension	5 VDC … 24 VDC
Impedance	47Ω + (100nF || 10 kΩ)
Output	
Tension	5 VDC … 24 VDC
Impedance	47Ω + (100nF || 10 kΩ || 47Ω)
Current max.	High +15 mA Low -15 mA
Port 16	
Input	
Tension	5 VDC … 24 VDC
Impedance	100nF || 10 kΩ
Output	
Tension	5 VDC … 24 VDC
Impedance	100nF || 10 kΩ
Current max.	High +500 mA (Darlington BCP56-16) Low - 500 mA (Darlington BCP56-16)
Optocoupler	
Output	TCMT4106, CTR 100% - 300%, Vishay or TLP281-4(GB), CTR 100% - 600%, Toshiba
Input	TCMT4106, CTR 100% - 300%, Vishay or TLP281-4(GB), CTR 100% - 600%, Toshiba
Input Option 2nd LED	TCMT4600, CTR 80% - 300%, Vishay or TLP280-4, CTR 33% - 300%, Toshiba

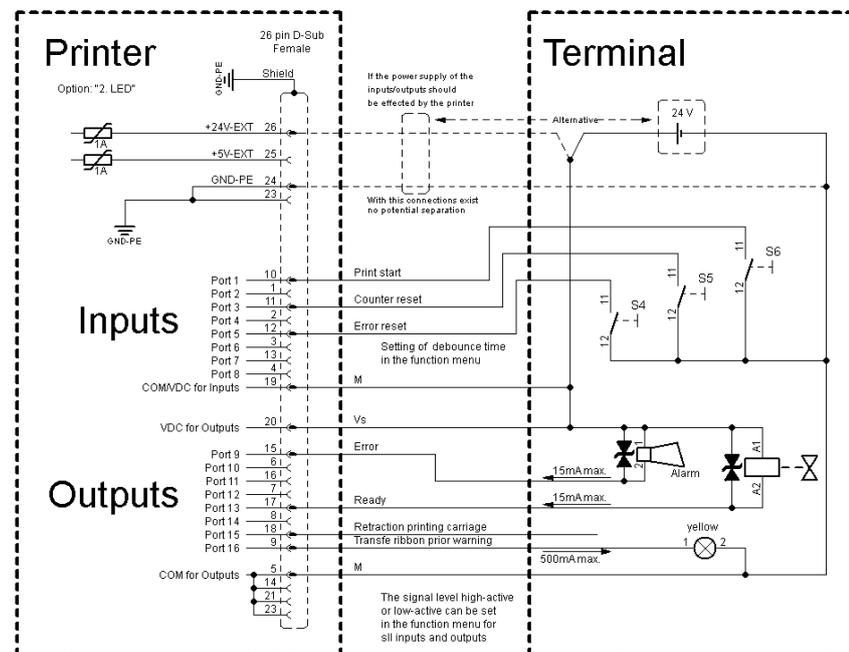**Example 1**   Device connection to a machine with S7-300 SPS.
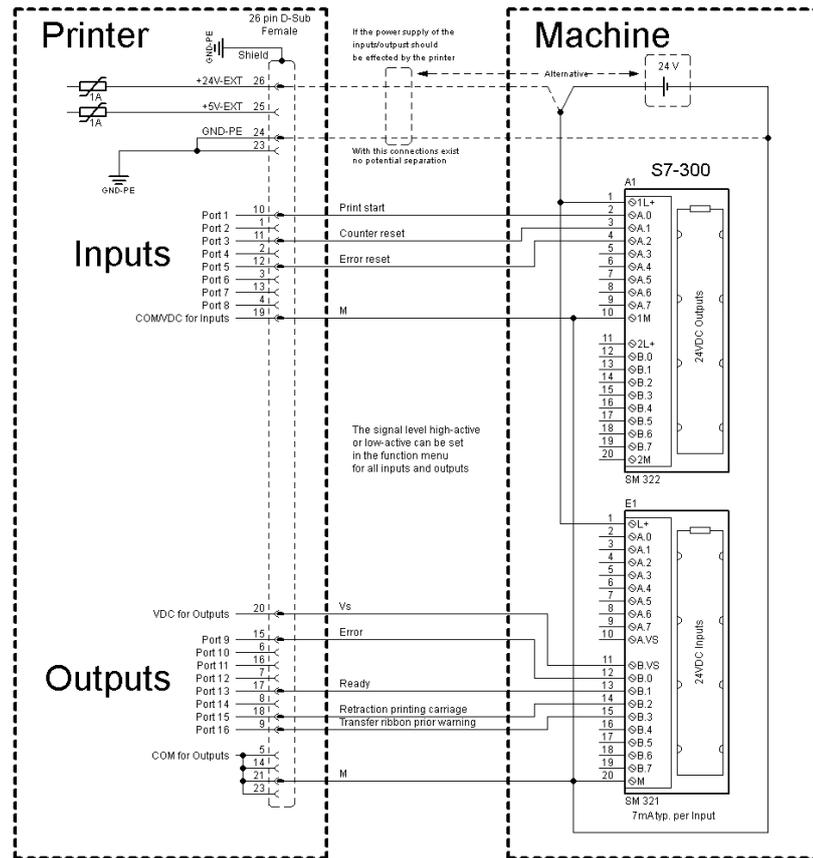
Figure 4

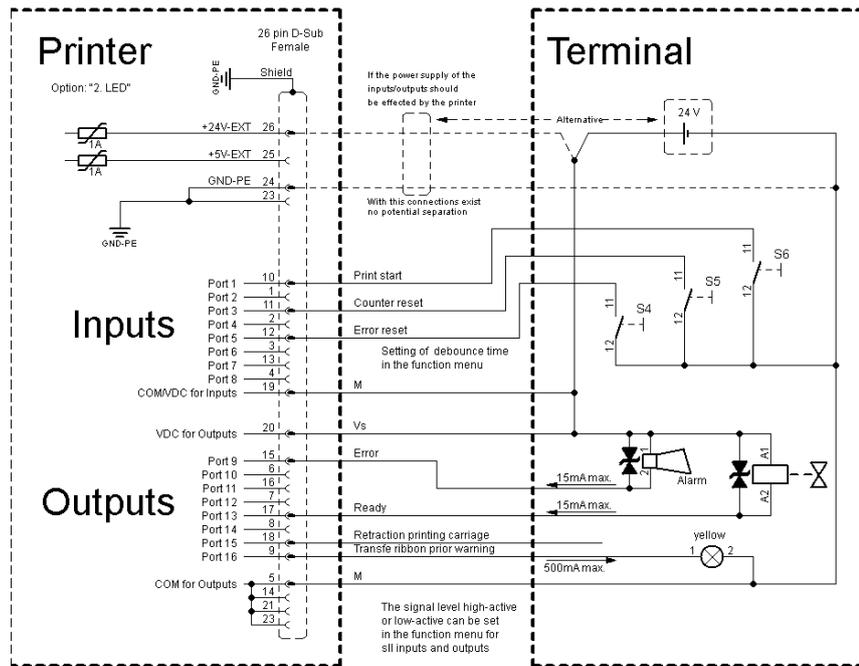**Example 2**   Device connection to a operating panel.

Figure 5

Example 3   Device connection version if 'Option: 2. LED'.

Figure 6

Precautions   When connecting a reed contact with a control input, the contact must
have a switching capacity of min. 1 A in order to prevent the contact
from sticking due to the inrush current. As an alternative, a suitable
resistor can be connected in series.

If one of the printer's internal voltages '+5 VDC EXT' or '+24 VDC
EXT' is used, an external fuse e.g. 0.5 AF, should be additionally
installed to protect the printer electronics.

In the event of an inductive load, an antiparallel connected diode, for
instance, must be used to discharge the induction energy.

In order to minimise the influence of leakage currents at control
outputs, a resistor must, depending on what is connected, be installed
in parallel with the load.

In order to avoid any damages to the printing system, the max. output
currents must not be exceeded or outputs shorted.

3.2 Plug & Play

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

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

Interface		Windows							
		95	98	Me	NT4	2000	XP	Vista	7
LPT	Support	✓	✓	✓	✓	✓	✓	✓	✓
	Recognition by	Boot Procedure, Dev. 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. Depending on the operating system, for the parallel interface the different possibilities are given:

- **Windows 95 / 98 / Me**
  Printers can be recognized during the starting procedure of Windows or by the Search for new hardware by means of the hardware wizard.

- **Windows 2000 / XP / Vista / 7**
  Printers can be recognized during the starting procedure of 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 printer' and/or 'Search automatically for new hardware components and install' is activated.

> **NOTICE!**
>
> If a driver is installed outside of the Plug & Play recognition, Windows reports at each restart that a new printer was found. In this case, the driver is to be installed anew by the Wizard. If the driver is certified for Windows, the reinstallation is executed automatically.

> **NOTICE!**
>
> Windows NT 4.0 does not support USB devices. However, some distributors offer drivers that support USB (without Plug & Play). Such a driver which suits to our printer is offered from BSQUARE. For more information, visit their web site: 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
label printer**

$\Longrightarrow$ Lift the label printer out of the box.

$\Longrightarrow$ Check the label printer for transport damages.

$\Longrightarrow$ Check delivery for completeness.

Scope of delivery

- Label Printer.

- Power Cable.

- Empty core, mounted on transfer ribbon rewinder.

- Tear-off edge (basic printers only).

- Dispenser edge (printers with option dispenser only).

- Cutter unit (printers with option cutter only).

- Documentation.

- Printer driver on CD ROM.

- Labelstar LITE on CD ROM

> **NOTICE!**
>
> Retain original packaging for subsequent transport.

4.1   Setting up the Label Printer

> **CAUTION!**
>
> The label printer and the print media can be damaged by moisture and water.
>
> $\Longrightarrow$ Set up the label printer only in a dry place protected from sprayed water.

$\Longrightarrow$ Set up label printer on a level, vibration-free and air draught-free surface.

$\Longrightarrow$ Open cover of label printer.

$\Longrightarrow$ Remove foam transportation safeguards near the printhead.

4.2   Connecting the Label Printer

Connection to the power supply

The label printer is equipped with an universal AC adaptor and is operated according to standard with nominal voltage of 230 V.
The conversion to 115 V is only allowed by trained personnel.

> **!   CAUTION!**
>
> The label printer can be damaged by undefined switch-on currents.
>
> ⟹   Set de power switch to '0' before plugging in the label printer.

⟹   Insert power cable into power connection socket.

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

Connecting to a computer or computer network

> **ⓘ   NOTICE!**
>
> Insufficient or missing grounding can cause faults during operation.
>
> Ensure that all computers and connection cables connected to the label printer are grounded.

⟹   Connect label printer to computer or network with a suitable cable.

4.3   Switching on the Label Printer

Once all connections have been made:

⟹   Switch label printer on with the power switch.
After switching on the label printer the main menu appears which shows the current date and time.

4.4   Start-Up

NOTICE!

The printer can be controlled either by our printer driver or our label design software.

After switching on the label printer the main menu appears which shows the current status as well as current date and time.

Insert label material and transfer ribbon (see chapter 5., on page 27).

After inserting the labels and the transfer ribbon the labels must be measured by the printer. With this procedure the label length is measured and the label photocell adjusted.

Press keys ⬤ and ▥ on the foil keyboard (> 3 sec.) to start the measuring process. For the measuring procedure the printer must be in online mode.

After terminating the measuring procedure press key ▥ to change to the online mode.

NOTICE!

To enable correct measuring, at least two completed labels have to be passed through (not for continuous labels).
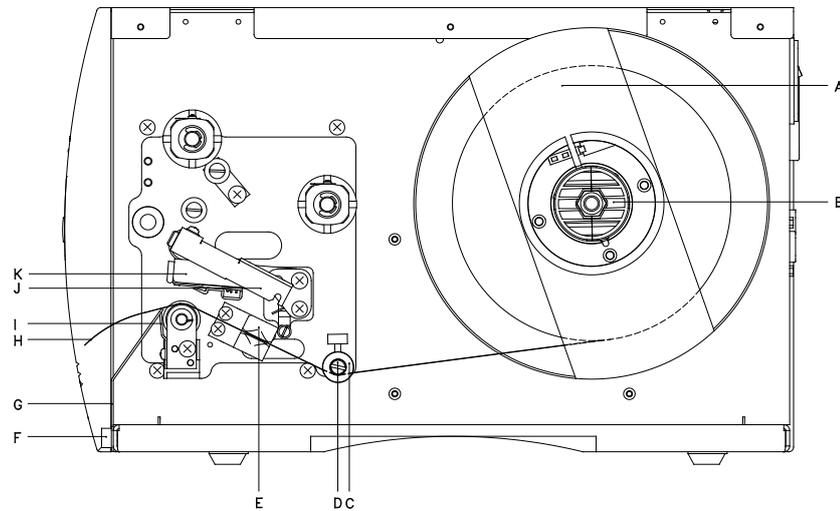
During the measuring procedure of label and gap length small differences can occur. Therefore the values can be set and transferred to the printer by means of the label design software as well as via the printer driver.

5   Loading Media

5.1   Loading Label Roll

Loading label roll for standard mode

Figure 7

1. Open the printer cover.

2. Open printhead (K) by turning the red pressure lever (J) anticlockwise.

3. Remove the outside label mounting plate (A).

4. Load the label roll with inner winding onto the unwinding roll (B).

5. Attach again the label mounting plate (A).

6. Lead the label material (H) below the return pulley (D) and the printhead (K).
    Make sure that the material is passed through the photocell (E).

7. Move the printhead (K) down by turning the red lever (J) in clockwise direction until it locks.

8. Adjust the adjusting ring (C) on the deviating shaft (D) to the material width.

9. Close the printer cover.

Loading label roll for tear-off mode

The printer is equipped by default with an integrated tear-off edge (not with option cutter or dispenser).

For an operation with tear-off edge (I) unscrew the two knurled knobs (F) and remove the front plate (G).
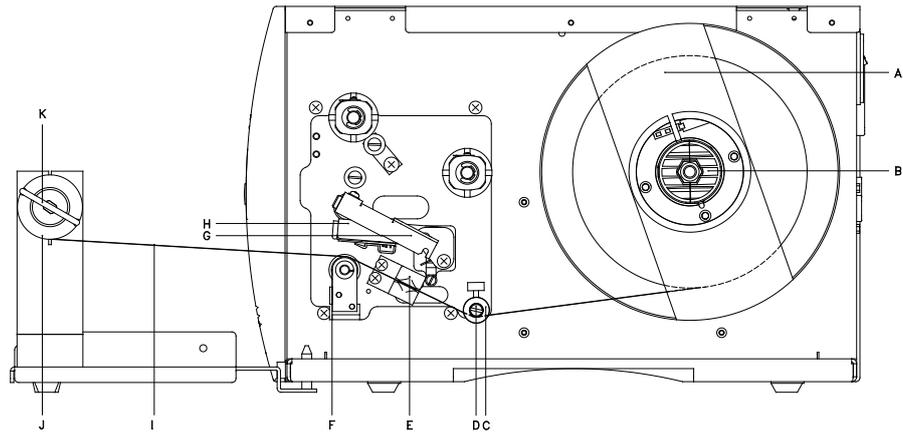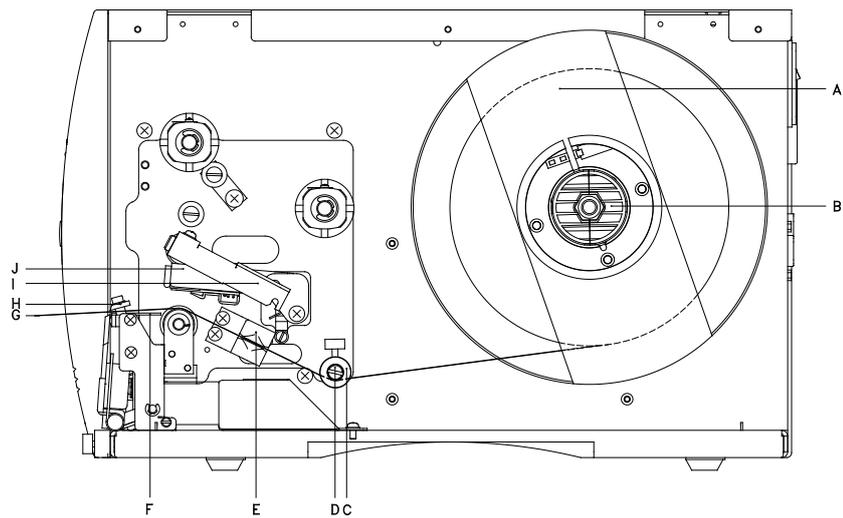
**Loading labels for
rewinding mode**

Figure 8

1. Open the printer cover.

2. Open printhead (H) by turning the red pressure lever (G) anticlockwise.

3. Remove the outside label mounting plate (A).

4. Load the label roll with inner winding onto the unwinding roll (B).

5. Attach again the label mounting plate (A).

6. Lead the label material (I) below the return pulley (D) and the printhead (H).
   Make sure that the material is passed through the photocell (E).

7. Guide the label material over the pressure roll (F) and fix it with a clamp (N) to the rewinding roll (J).

8. Move the printhead (H) down by turning the red lever (G) in clockwise direction until it locks.

9. Adjust the adjusting ring (C) on the deviating shaft (D) to the material width.

10. Close the printer cover.
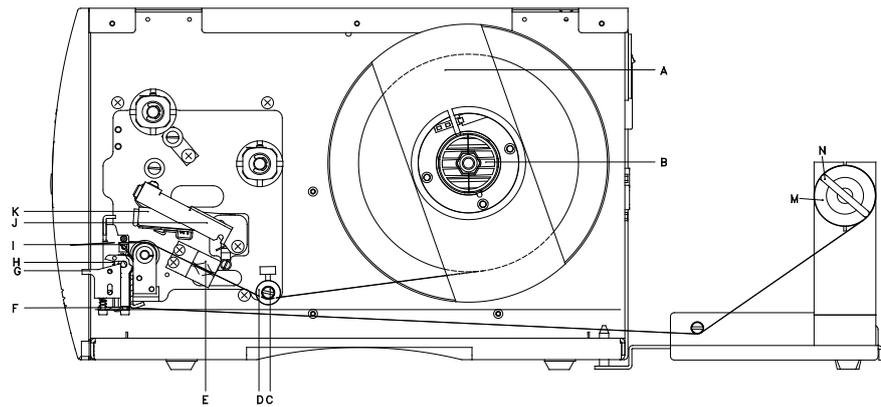
**Loading label roll
for cutting mode**

Figure 9

1. Open the printer cover.

2. Open printhead (J) by turning the red pressure lever (I) anticlockwise.

3. Remove the outside label mounting plate (A).

4. Load the label roll with inner winding onto the unwinding roll (B).

5. Attach again the label mounting plate (A).

6. Lead the label material (I) below the return pulley (D) and the printhead (J).
   Make sure that the material is passed through the photocell (E).

7. Guide the label material through the bottom plate (F) and the cutter ledge (H).

8. Move the printhead (J) down by turning the red lever (I) in clockwise direction until it locks.

9. Adjust the adjusting ring (C) on the deviating shaft (D) to the material width.

10. Close the printer cover.

**Loading label roll
fop peel-off mode**

Figure 10

1. Open the printer cover.

2. Open printhead (K) by turning the red pressure lever (J) anticlockwise.

3. Remove the outside label mounting plate (A).

4. Load the label roll with inner winding onto the unwinding roll (B).

5. Attach again the label mounting plate (A).

6. Lead the label material below the return pulley (C) and printhead (K) and hold it towards the marked stopper surface (L).
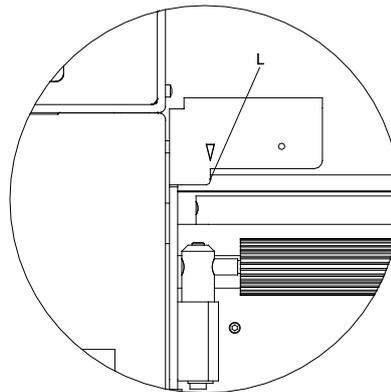
    Make sure that the material is passed through the photocell (E).

7. Move the printhead (K) down by turning the red lever (J) in clockwise direction until it locks.

8. Adjust the adjusting ring (D) on the deviating shaft (C) to the material width.

9. Press key ▥ to start a test print, or press keys ⬤ + ▥ to start a measuring procedure to determine the exact position of label beginning.

10. Unlock the dispense roll (H) by pressing the red locking part (G).

11. Strip some labels from the backing paper and lead the backing material over the dispenser edge (I).

12. Press the dispense roll (H) backwards towards the backing paper.

13. Place the backing material under the dispense angle (F) rearwards and fix it with the clamp (N) at the optional external rewinding unit (M).

14. Close the printer cover.

5.2   Loading Fan-Fold Labels

Figure 11

1.   Open the printer cover.

2.   Open printhead (F) by turning the red pressure lever (E) anticlockwise.

3.   Place the fan-fold material (A) from behind to the printer bottom.

4.   Lead the fan-fold material (A) below the return pulley (C) and the printhead (F).
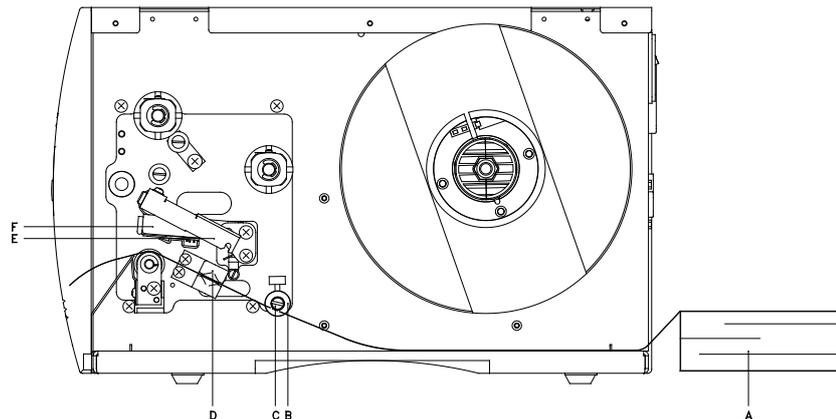   Make sure that the material is passed through the photocell (D).

5.   Move the printhead (F) down by turning the red lever (E) in clockwise direction until it locks.

6.   Adjust the adjusting ring (B) on the deviating shaft (C) to the material width.

7.   Close the printer cover.

5.3 Loading Transfer Ribbon

i **NOTICE!**

For the thermal transfer printing method it is necessary to load a ribbon, otherwise when using the printer in direct thermal print it is not necessary to load a ribbon. The ribbons used in the printer have to be at least the same width as the print media. In case the ribbon is narrower than the print media, the printhead is partly unprotected and this could lead to early wear and tear.
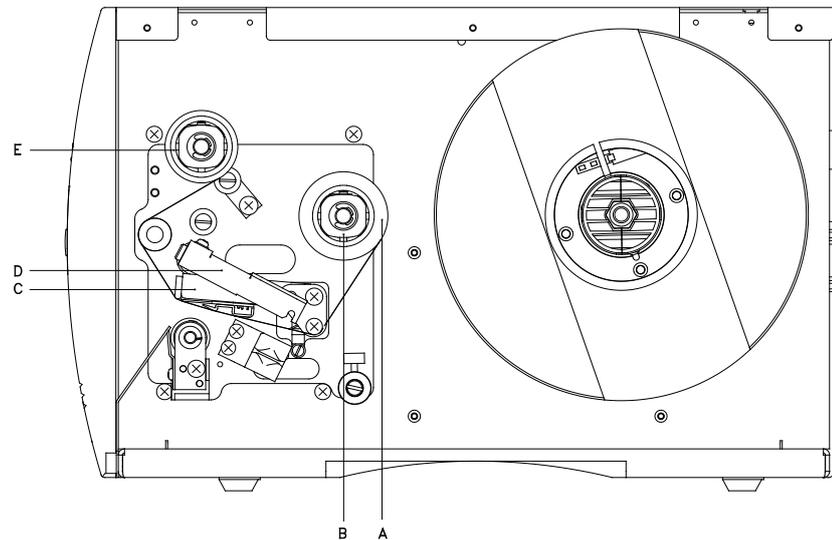
Figure 12

i **NOTICE!**

Before a new transfer ribbon roll is loaded, the printhead must be cleaned using printhead and roller cleaner (97.20.002). For detailed information, please see page 47.
The handling instructions for the use of Isopropanol (IPA) must be observed. In the case of skin or eye contact, immediately wash off the fluid thoroughly with running water. If the irritation persists, consult a doctor. Ensure good ventilation.

1. Open the printer cover.

2. Open printhead (C) by turning the red pressure lever (D) anticlockwise.

3. Load the transfer ribbon roll (A) with outer winding onto the unwinding roll (B).

4. Place an empty ribbon roll on the rewinding roll (E) and lead the transfer ribbon below the printhead (C).

5. Fix the transfer ribbon with an adhesive tape at the empty core of the rewinding roll (E). Make sure that the rotation direction of transfer ribbon rewinding is anticlockwise.

6. Move the printhead (C) down by turning the red lever (D) in clockwise direction until it locks.

7. Close the printer cover.

NOTICE!

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

6   Control Panel

6.1   Structure of the Control Panel

With the control panel the user can control the operation of the printer. The following processes can be done:

- Interrupt, continue or cancel print orders.

- Test functions.

- Determine label values.

- Error acknowledgement.

- Restore default values.

Settings made on the control panel make generally the basic settings of the label printer.

6.2   Printer States

i   **NOTICE!**

The printer has additionally to the two-line display 2 coloured LEDs so that the user can read the printer state from the distance.

State	LED	Display	Description
Ready	POWER ● ERROR ○	`ONLINE` Date and time	The printer is ready and can receive data
Not ready	POWER ◐ ERROR ○	`OFFLINE` Date and time	In Offline mode the following processes can be done: • Feeds a blank label • Test print / status print • Error acknowledgement • Cancel a print order
Printing	POWER ● ERROR ○	`Name Print` Name of the printed label. Specified and actual number of prints inside a current print order.	The printer is processing the current print order. The printer can receive data for a new print order. The new print order will start after the previous one has finished.

State	LED	Display	Description
Pause	POWER ● ERROR ●	`Name Stopped` Name of the printed label. Specified and actual number of prints inside a current print order.	The print order was interrupted by the user.
Waiting	POWER ● ERROR ●	`Name Waiting` Name of the printed label. Specified and actual number of prints inside a current print order.	Only with option dispenser: The printer is ready to print the next label of the current print order and to dispense it afterwards.
Error	POWER ● ERROR ●	`Error    Number` Error number Short-description of the error.	An error is occurred that must be rectified (see error table on page 53). The print order can be continued after removing the error.

6.3 Key Functions

ℹ **NOTICE!**

The key functions depend on the current printer state.

State	Key	Description/Function
Ready	○	Change to the offline mode.
	○ + Ⅲ	Keep the keys successively pressed to determine the label values.
	○ + ◢	Keep the keys successively pressed (> 10 s) to restore the default values.

State	Key	Description/Function
Not ready	⬤	Change to the online mode.
	◢	Short press = Label feed. Longer press = Single cut.
	⦀	Short press = Test print. Longer press = Status print.
	◢ + ⦀	Keep the keys together pressed to access the service functions (page 43).
Printing	⬤	Interrupt print order. Continue print order.
Pause	⦀	Interrupt print order.
	⬤	Continue print order.
Error	⦀	Error acknowledgement (see table on page 53).

7   Printing

!   **CAUTION!**

Printhead damage caused by improper handling!

$\Rightarrow$ Do not touch the underside of the printhead with the fingers or sharp objects.

$\Rightarrow$ Ensure that the labels are clean.

$\Rightarrow$ Ensure that the label surfaces are smooth. Rough labels act like emery paper and reduce the service life of the printhead.

$\Rightarrow$ Print with the lowest possible printhead temperature.

7.1   Processing Print Orders

The printer must be in Online mode.

During a current print order the printer is in Online mode, i.e. data can be sent by the interface.

Send the print order by interface to the printer.
After transferring the data the print order is started automatically and the first label is printed.

Press key ⬤ to interrupt the print order.

Press key ◤ to print the last printed label again.
This is relevant if an error appeared during the current print order and the sequence of labels (e.g. counter) is considerably important.

Press key ⬤ to continue the print order.

Press key ||| to cancel the interrupted print order.

7.2   Status Print

The printer must be in Online mode.

Press key ||| (> 2 s) to print the current printer settings and a sample label.

The printer settings can be modified only by the interface.

7.3   Label Feed

The printer must be in Offline mode.

Press key to start the feed of one label.

7.4   Saving Labels

The saving of data e.g. text or graphic is done in the internal data memory. The saving can be selected either in our label design software or by an appropriate program.

For more information, see the appropriate manual.

7.5   Tear-off Mode

In order to detach the label band after terminating the print order by hand, the label printer is equipped by default with a tear-off bar.

Loading of labels in tear-off mode, see on page 27.

7.6   Synchronization of Label Feed

The printer must be in Offline mode.

After inserting the label material for dispenser or cutter mode, the synchronization of label feed is necessary. The first label which is detected by the label photocell will be transported to the print position and all labels in front will be fed out of the printer.

The synchronization in dispenser mode prevents that blank labels are peeled-off together with the first printed label.

The synchronization of label feed in cutter mode prevents that the first cut label would be too long.

Press key to start the synchronization.

Remove the labels peeled-off.

7.7   Dispenser Mode

The label dispenser unit removes the label from backing paper and provides it for further processing. After removing the label, the following print order is activated by the dispenser photocell or an external impulse to the dispenser inputs. The backing paper can be rolled up again with the internal rewinder.

Loading of labels in peel-off mode, see on page 30.

i   **NOTICE!**

The operating mode can be selected in the printer driver or our label design software.

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:
For description of this operating mode, see 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 printer 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:
For description of this operating mode, see I/O dynamic.
Continuous means that it is printed as long as new data is transferred via interface.

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

Photocell continuous:
For description of this operating mode, see Photcell.
Continuous means that it is printed as long as new data is transferred via interface.

7.8   Cutter Mode

CAUTION!

Risk of injury, particularly during maintenance, the cutter blades are sharp!

$\Longrightarrow$ Switch off the before attaching the cutter!

$\Longrightarrow$ The cutter may only be used when it is mounted on the printer!

$\Longrightarrow$ Do not try to cut any materials which exceed the maximum width or thickness specifications.

$\Longrightarrow$ Do NOT touch the area of the moving blades!

The 'Guillotine' cutter permits cutting of materials up to a weight of 220 g/m² without any problems. The cutter can be refit without any technical effort. The activation of a cut can be started by an external impulse of the dispenser photocell.

Loading of labels in cutter mode, see on page 29.

NOTICE!

The operating mode can be selected in the printer driver or our label design software.

Operating modes

Off:
The print order is processed without cutting.

Without Backfeed:
A cut is effected after each label.
We recommend using this operating mode if no data which is to print is in the upper part of the label.

With Backfeed:
A cut is effected after each label.

Interval with Final Cut:
A cut is effected after a fixed number of labels which you have to enter at the print start and additionally at the end of the print order.

Interval without Final Cut:
A cut is effected after a fixed number of labels which you have to enter at the print start. At the end of the printer order no cut is effected except when the set interval comes to the end of the print order.

Final Cut:
A cut is only effected at the end of the print order.

Single Cut:

The printer must be in Offline mode, then press key ◄ (> 2 s).

8   Service Functions

The printer must be in Offline mode.

Press and hold the keys ⬆ + III (> 3 s) to access the service functions.

Lbl-PC TR S.[V]
19   4.65

Adjust Sensibility of Label Photocell
Reflexion / Transmission Photocell - depending on setting

Press keys ⬤ + ⬆ to reduce the value.

Press keys ⬤ + III to increase the value.

Press key ⬤ to confirm the setting.

Determine signal threshold

Setting the photocell level.
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 the next menu.

Disp.-PC S.[V]
80   0.02

Adjust Sensibility of Dispenser Photocell

Press keys ⬤ + ⬆ to reduce the value.

Press keys ⬤ + III to increase the value.

Press key ⬤ to confirm the setting.

Press key ⬆ to arrive the next menu.

Heater Resist.
1250

Adjust Heater Resistance

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

Press keys ⬤ + ⬆ to reduce the value.

Press keys ⬤ + III to increase the value.

Press key ⬤ to confirm the setting.

Press key to arrive the next menu.

Printer language
English

Select Printer Language

Press keys + or + to select the printer language.
The following languages are available: German, English, French, Spanish, Finnish, Czech (option), Portuguese, Dutch, Italian, Danish and Polish.

Press key to confirm the selection.

Press key to arrive the next menu.

Printer emulat.
CVPL

Select Printer Emulation

Press keys + or + to change the protocol.

Change between CVPL protocol and ZPL II$^®$ protocol.

CVPL: Carl Valentin Programming Language
ZPL: Zebra$^®$ Programming Language

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.

 NOTICE!

Before starting a firmware update make sure that the CVPL protocol is selected.

Press key to arrive the next menu.

Printer type
Pica II 106/12

Select Printer Type

Press keys + or + to change the printer type.

Press key to confirm the selection.

Press key to arrive the next menu.

Printhead
PH 232

Printhead Type

Indication of the currently used printhead.

9 Maintenance and Cleaning

DANGER!

Risk of death by electric shock!

$\Longrightarrow$ Disconnect the label printer from power supply before performing any maintenance work.

NOTICE!

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

Maintenance schedule

Maintenance Task	Frequency
General cleaning (see 9.1, on page 46).	As necessary.
Cleaning print roller (see 9.1, on page 46).	Each time the label roll is changed or when the printout and label transport are adversely affected.
Cleaning printhead (see 9.3, on page 47).	**Direct thermal printing:** Each time the label roll is changed. **Thermal transfer printing:** Each time the transfer ribbon is changed or when the printout is adversely affected.
Cleaning label photocell (see 9.4, on page 48).	When exchanging the label roll.
Replacing printhead (see 9.5, on page 49).	In case of errors in printout.

NOTICE!

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

WARNING!

Risk of fire by easily inflammable label soluble!

$\Longrightarrow$ When using label soluble, dust must be completely removed from the label printer and cleaned.

9.1 General Cleaning

! **CAUTION!**

Abrasive cleaning agents can damage the label printer!

⟹   Do not use abrasives or solvents to clean the outer surface of the label printer.

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

⟹   Clean outer surfaces with an all-purpose cleaner.

9.2 Cleaning the Print Roller

A soiled print roller can lead to reduced print quality and can affect transport of material.
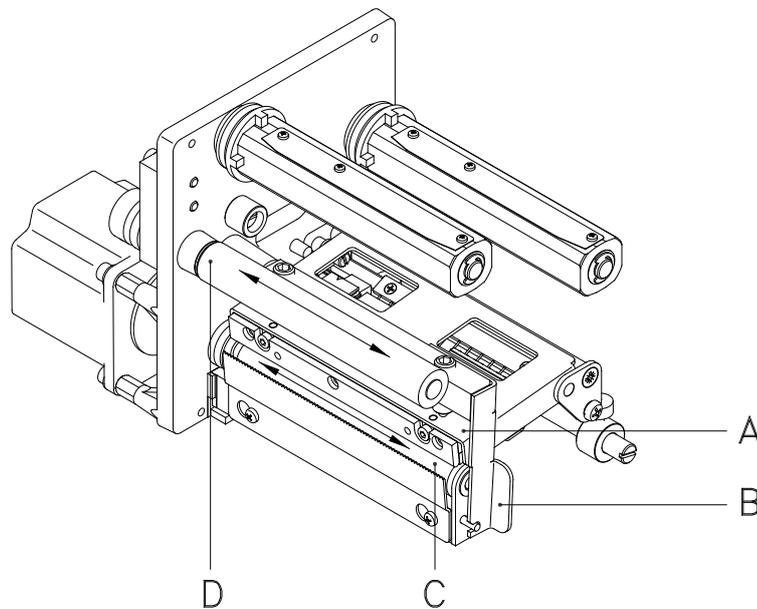
Figure 13

1. Open the printer cover.

2. Turn red lever (B) counter clockwise to lift up the printhead (A).

3. Remove labels and transfer ribbon form the label printer.

4. Remove deposits with roller cleaner and a soft cloth.

5. Turn the roller (C + D) manually step by step to clean the complete roller (only possible when printer is switched off, as otherwise the step motor is full of power and the roller is kept in its position).
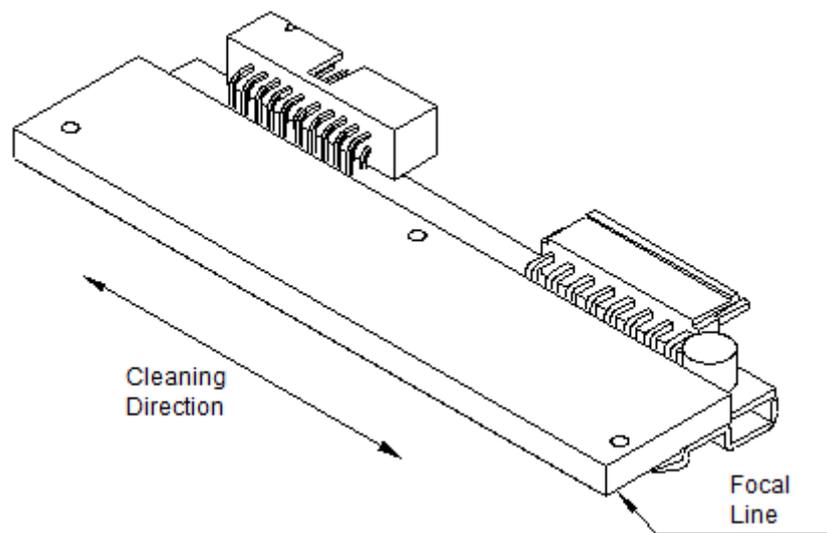
9.3 Cleaning the Printhead

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

！ CAUTION!

Printhead can be damaged!

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

⟹ Do not touch protective glass layer of the printhead.

Figure 14

1. Open the printer cover.

2. Turn red lever (B, in Figure 13) counter clockwise to lift up the printhead.

3. Remove labels and transfer ribbon from the label printer.

4. Clean printhead surface with special cleaning pen or a cotton swab dipped in pure alcohol.

5. Allow printhead to dry for 2-3 minutes before commissioning the printer.
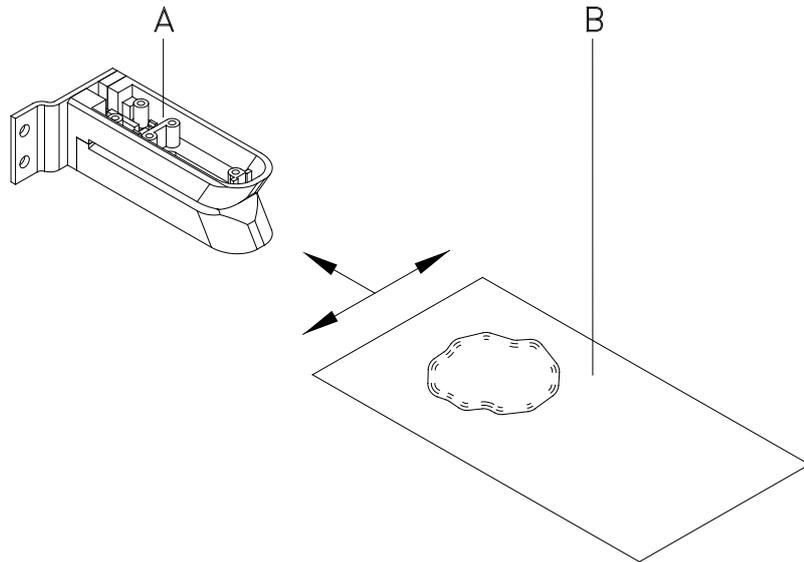
9.4   Cleaning the Label Photocell

!   **CAUTION!**

Label photocell can be damaged!

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

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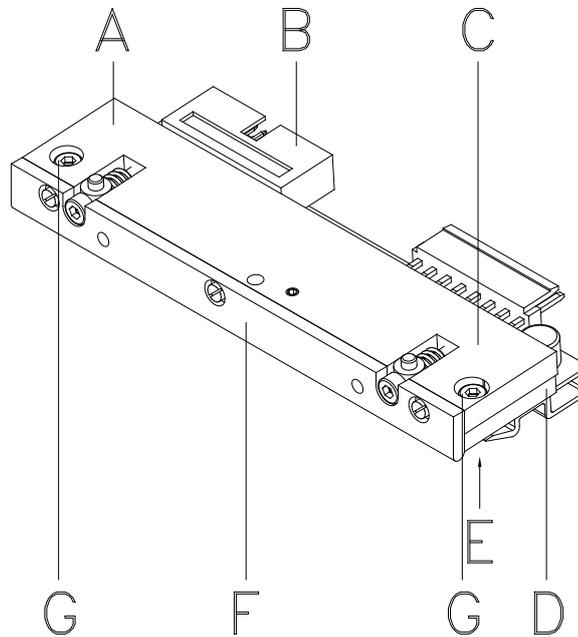

Figure 15

1.   Open printer cover.

2.   Turn red lever counter clockwise to lift up the printhead.

3.   Remove labels and transfer ribbon from the label printer.

4.   Blow out the photocell (A) with pressure gas spray.
     Observe strictly the instructions on the spray can!

5.   Clean the label photocell (A) additionally with a cleaning card (B) before soaked in pure alcohol. Move the cleaning card from one side to the other (see illustration).

6.   Reload the labels and transfer ribbon (see chapter 5 Loading Media, on page 27).

9.5   Replacing the Printhead (General)

NOTICE!

The printhead (D) is preinstalled on a head plate (A) and precisely aligned at the factory. Do not loosen the screws (G) under any circumstances.

Figure 16

A   Head plate
B   Plug connection signal
C   Plug connection tension
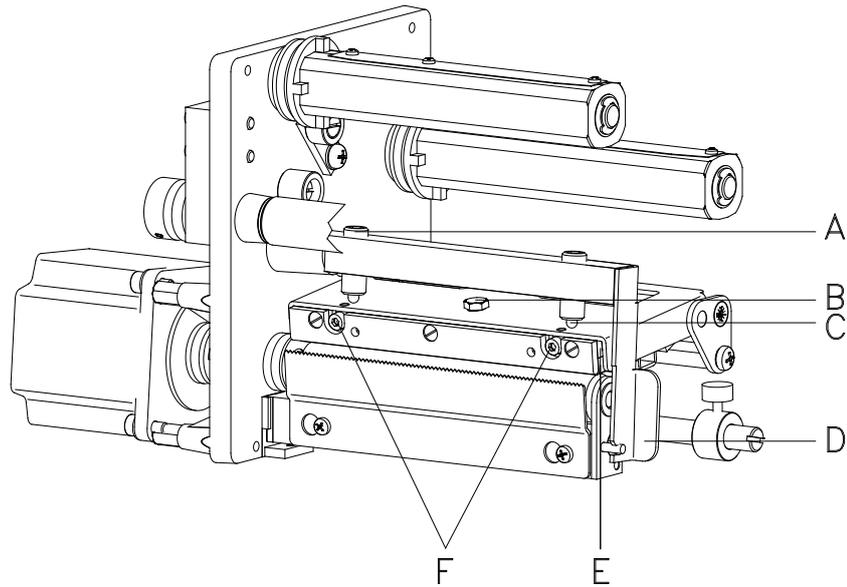D   Printhead
E   Focal line
F   Guiding
G   Screw

CAUTION!

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

$\Rightarrow$ Set up printer on a grounded, conductive surface.

$\Rightarrow$ Ground your body, e.g. by wearing a grounded wristband.

$\Rightarrow$ Do not touch contacts on the plug connections (B, C).

$\Rightarrow$ Do not touch printing line (E) with hard objects or your hands.

9.6 Replacing the Printhead

Figure 17

Removing the printhead

1. Remove labels and transfer ribbon from the label printer.

2. When printhead is closed, loosen the fixing screw (B).

3. Turn red lever (D) counter clockwise to lift up the printhead.

4. If the printhead (E) is not disengaged on the pressure roller, continue loosen the fixing screw (B).

5. Remove the printhead carefully to the front until you can reach the plug connections.

6. Remove plug connections and then remove printhead (E).

Installing the printhead

Attach plug connections.

1. Position printhead in printhead mounting bracket in such a way that the pins are secured in the corresponding holes in the head plate.

2. Lightly keep printhead mounting bracket on the printer roller with one finger and check for correct positioning of the printhead.

3. Screw in fixing screw (B) and tighten it.

4. Check resistance value on the type plate of printhead and if necessary change the value in the menu *Service functions/Heater resistance*.

5. Reload the labels and transfer ribbon (see chapter 5 Loading Media, on page 27).

9.7 Adjusting the Printhead

Parallelism

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

1. Loosen the fixing screw (B, Figure 17) approx. ¼ rotations.
2. Adjust the parallelism with the adjusting screws (F, Figure 17).
   Clockwise = printhead moves forwards
   Counter clockwise = printhead moves backwards
3. Adjust the parallelism as long as the printing result comes up to your full expectation.
4. Tighten again the fixing screws (B, Figure 17).
5. Start a print order with approx. 10 labels and control the correct passage of transfer ribbon.

Pressure

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

> **!** **CAUTION!**
>
> Damage of printhead by unequal use!
>
> ⟹   Change factory settings only in exceptional cases.

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

1. Turn the pressure pieces (A + C, Figure 17) to change the pressure of printhead.
2. Turning the pressure pieces
   in clockwise direction increases the pressure
   anticlockwise reduces the pressure.
3. Tighten again the pressure lever (D, Figure 17) clockwise to lock the printhead.

10   Error Correction

In case an error occurred the printer stops and the print order is interrupted.

After removing the error, press key to acknowledge the error.

An active print order is now interrupted. Press key to print the last printed label once more.
This is particularly important if an error arose during a current print order and the sequence of the labels (e.g. counter) is to be considered.

Press key to continue a print order or press key to cancel the print order.

Error Message	Cause	Remedy
1 Line too high	Line rises up completely or partly over the upper edge of label.	Move line down (increase Y value). Check rotation and font.
2 Line too low	Line rises up completely or partly over the bottom edge of label.	Move line up (reduce X value). Check rotation and font.
3 Character set	One res. several characters of the text is res. are not available in the selected font.	Change text. Change font.
4 Unknown code type	Selected code is not available.	Check code type.
5 Illegal rotation	Selected rotation is not available.	Check rotation.
6 Font	Selected font is not available.	Check font.
7 Vector font	Selected font is not available.	Check font.
8 Measure label	While measuring no label was found. Set label length is too large.	Check label length and if labels are inserted correctly. Restart measuring anew.
9 No label found	No label available. Soiled label photocell. Labels not inserted correctly.	Insert new label roll. Check if labels are inserted correctly. Clean the label photocell.
10 No ribbon	During the print order the ribbon roll becomes empty. Defect at the transfer ribbon photocell.	Change transfer ribbon. Check transfer ribbon photocell (service functions).
11 COM FRAMING	Stop bit error.	Check stop bits. Check baud rate. Check cable (printer and PC).

Error Message	Cause	Remedy
12 COM PARITY	Parity error.	Check parity. Check baud rate. Check cable (printer & PC).
13 COM OVERRUN	Loss of data at serial interface (RS-232).	Check baud rate. Check cable (printer & PC).
14 Field number	Received line number is invalid at RS-232 and Centronics.	Check sent data. Check connection (printer & PC).
15 Length mask	Invalid length of received mask statement.	Check sent data. Check connection (printer & PC).
16 Unknown mask	Transferred mask statement is invalid.	Check sent data. Check connection (printer & PC).
17 Missing ETB	No end of data found.	Check sent data. Check connection (printer & PC).
18 Inv. character	One res. several characters of the text is res. are not available in the selected font.	Change text. Change font.
19 Inv. statement	Unknown transferred data record.	Check sent data. Check connection (printer & PC).
20 Inv. check digit	For check digit control the entered res. received check digit is wrong.	Calculate check digit anew. Check code data.
21 Inv. SC number	Selected SC factor is invalid for EAN res. UPC.	Check SC factor.
22 Inv. no of digits	Entered digits for EAN res. UPC are invalid < 12; > 13.	Check number of digits.
23 Type check digit	Selected check digit calculation is not available in the bar code.	Check calculation of check digit. Check bar code type.
24 Inv. extension	Selected zoom factor is not available.	Check zoom factor.
25 Offset sign	Entered sign is not available.	Check offset value.
26 Offset value	Entered offset value is invalid.	Check offset value.
27 Printhead temp.	Printhead temperature is too high. Defective printhead sensing device.	Reduce contrast. Change printhead.
28 Cutter error	With cut an error occurred. Paper jam.	Check label run. Check cutter run.
29 Inv. parameter	Entered data do not correspond to the characters allowed from the application identifier.	Check code data.

Error Message	Cause	Remedy
30 Appl. Identifier	Selected application identifier is not available in GS1-128.	Check code data.
31 HIBC Definition	Missing HIBC system sign. Missing primary code.	Check definition of HIBC code.
32 System clock	Real Time Clock function is selected but the battery is empty. Defective RTC.	Change battery. Change RTC component.
33 No CF interface	Interrupted connection CPU - Compact Flash card. Defective Compact Flash card interface.	Check connection CPU - Compact Flash card interface. Check Compact Flash card interface.
34 No print memory	No print Compact Flash found.	Check Compact Flash assembly on CPU.
35 Cover open	At start of a print order the printhead is open.	Close the printhead and start print order anew.
36 BCD inv. format	BCD error - Invalid format for the calculation of Euro variable.	Check entered format.
37 BCD Overflow	BCD error - Invalid format for the calculation of Euro variable.	Check entered format.
38 BCD Division/0	BCD error - Invalid format for the calculation of Euro variable.	Check entered format.
39 FLASH Error	Flash component error.	Run a software update. Change CPU.
40 Length command	Invalid length of the received command statement.	Check data sent. Check connection PC - printer.
41 No drive	Compact Flash card not found / not correctly inserted.	Insert Compact Flash card correctly.
42 Drive error	Impossible to read Compact Flash card (faulty).	Check Compact Flash card, if necessary change it.
43 Not formatted	Compact Flash Card not formatted.	Format Compact Flash card.
44 Delete act. dir.	Attempt to delete the actual directory.	Change directory.
45 Path too long	Too long indication of path.	Indicate a shorter path.
46 Drive WP	Memory card is write-protected.	Deactivate write protection.
47 Dir. not file	Attempt to indicate a directory as file name.	Correct your entry.
48 File alrdy open	Attempt to change a file during an access is active.	Select another file.
49 No file/dir.	File does not exist on Compact Flash card.	Check file name.
50 Invalid file name	File name contains invalid characters.	Correct entry of name, remove special characters.

Error Message	Cause	Remedy
51 Int. file error	Internal file system error.	Please contact your distributor.
52 Root full	The max. number (64) of main directory entries is reached.	Delete at least one main directory entry and create subdirectories.
53 Drive full	Maximum Compact Flash capacity is reached.	Use new Compact Flash Card, delete no longer required files.
54 File/dir. exists	The selected file/directory already exists.	Check name, select a different name.
55 File too large	During copying procedure not enough memory space onto target drive available.	Use a larger target card.
56 No update file	Errors in update file of firmware.	Start update file anew.
57 Inv. graph. file	The selected file does not contain graphic data.	Check file name.
58 Dir. not empty	Attempt to delete a not empty directory.	Delete all files and sub-directories in the desired directory.
59 No interface	No Compact Flash card drive found.	Check connection of Compact Flash card drive. Contact your distributor
60 No media	No Compact Flash card is inserted.	Insert Compact Flash card in the slot.
61 Webserver error	Error at start of web server.	Please contact your distributor.
62 Wrong PH-FPGA	The direct print module is equipped with the wrong FPGA.	Please contact your distributor.
63 End position	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.
64 Zero point	Defective photocell.	Change photocell.
65 Compressed air	Pressure air is not connected.	Check pressure air.
66 Ext. release	External print release signal is missing.	Check input signal.
67 Row too long	Wrong definition of column width res. number of columns.	Reduce the column width res. correct the number of columns.
68 Scanner	The connected bar code scanner signals a device error.	Check the connection scanner/printer. Check scanner (dirty).
69 Scanner NoRead	Bad print quality. Printhead completely soiled or defective. Print speed too high.	Increase contrast. Clean printhead or exchange (if necessary). Reduce print speed.
70 Scanner data	Scanned data does not correspond to the data which is to print.	Exchange printhead.

Error Message	Cause	Remedy
71 Invalid page	As page number either 0 or a number > 9 is selected.	Select a number between 1 and 9.
72 Page selection	A page which is not available is selected.	Check the defined pages.
73 Page not defined	The page is not defined.	Check the print definition.
74 Format user guid	Wrong format for customised entry.	Check the format string.
75 Format date/time	Wrong format for date/time.	Check the format string.
76 Hotstart CF	No Compact Flash card found.	If option hotstart was activated, a Compact Flash card must be inserted. Switch off the printer before inserting the memory card.
77 Mirror/Rotate	Selection of print of several columns and also mirror/rotate.	It is only possible to select one of both functions.
78 System file	Loading of temporary hotstart files.	Not possible.
79 Shift variable	Faulty definition of shift times (overlapping times).	Check definition of shift times.
80 GS1 Databar	General GS1 Databar error.	Check definition and parameter of GS1 Databar code.
81 IGP error	Protocol error IGP.	Check sent data.
82 Time generation	Printing creation was still active at print start.	Reduce print speed. Use printers' output signal for synchronisation. Use bitmap fonts to reduce generating time.
83 Transport prot.	Both DPM position sensors (start/end) are active.	Displace zero point sensor Check sensors in service functions menu
84 No font data	Font and web data is missing.	Run a software update.
85 No layout ID	Label ID definition is missing.	Define label ID onto the label.
86 Layout ID	Scanned data does not correspond to defined ID.	Wrong label loaded from Compact Flash card.
87 RFID no label	RFID unit cannot recognise a label.	Displace RFID unit or use an offset.
88 RFID verify	Error while checking programmed data.	Faulty RFID label. Check RFID definitions
89 RFID timeout	Error at programming the RFID label.	Label positioning. Faulty label.
90 RFID data	Faulty or incomplete definition of RFID data.	Check RFID data definitions.

Error Message	Cause	Remedy
91 RFID tag type	Definition of label data does not correspond with the used label.	Check storage partitioning of used label type
92 RFID lock	Error at programming the RFID label (locked fields).	Check RFID data definitions. Label was already programmed.
93 RFID programming	Error at programming the RFID label.	Check RFID definitions.
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.
95 Scan. layout diff	Scanner data does not correspond to bar code data.	Check adjustment of scanner. Check scanner settings / connection.
96 COM BREAK	Serial interface error.	Check settings for serial data transmission as well as cable (printer-PC).
97 COM GENERAL	Serial interface error.	Check settings for serial data transmission as well as cable (printer-PC).
98 No SW PH-FPGA	No printhead-FPGA data available.	Please contact your responsible distributor.
99 Load SW PH-FPGA	Error when programming printhead-FPGA.	Please contact your responsible distributor.
100 Upper position	Sensor signal up is missing (option APL 100).	Check input signals / compressed-air supply.
101 Lower position	Sensor signal down is missing (option APL 100).	Check input signals / compressed-air supply.
102 Vac. plate empty	Sensor does not recognise a label at vacuum plate (option APL 100).	Check input signals / compressed-air supply.
103 Start signal	Print order is active but device not ready to process it.	Check start signal.
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.
105 Printhead	No original printhead is used.	Check the used printhead. Contact your distributor.

Error Message	Cause	Remedy
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.
107 RFID inactive	RFID module is not activated. No RFID data can be processed.	Activate RFID module or remove RFID data from label data.
108 GS1-128 invalid	Transferred GS1-128 bar code is invalid.	Verify bar code data (see GS1-128 bar code specification).
109 EPC parameter	Error at EPC calculation.	Verify data (see EPC specification).
110 Housing open	When starting the print order the housing cover is not closed.	Close the housing cover and start the print order anew.
111 EAN.UCC Code	Transferred EAN.UCC code is invalid.	Verify bar code data (see corresponding specification).
112 Print carriage	Printing carriage does not move.	Check gear belt (possibly broken).
113 Applicator error	Error while using applicator.	Check applicator.
114 Left position	Left final position switch is not in correct position.	Check LEFT final position switch for correct function and position. Check function of pneumatics for cross traverse.
115 Right position	Right final position switch is not in correct position.	Check RIGHT final position switch for correct function and position. Check function of pneumatics for cross traverse.
116 Print position	The print position is not correct.	Check TOP and RIGHT final position switch for correct function and position. Check pneumatics for function
117 XML parameter	The parameters in the XML file are not correct.	Please contact your responsible distributor.
118 Invalid variable	Transferred variable is invalid with customized entry.	Select correct variable without customized entry and transfer it.
119 No ribbon	During the print order the ribbon roll becomes empty. Defect at the transfer ribbon photocell.	Change transfer ribbon. Check transfer ribbon photocell (service functions).
120 Wrong directory	Invalid target directory when copying.	Target directory must not be within the source directory. Check target directory.
121 No label found	No label found at the rear printhead. Soiled label photocell. Labels not inserted correctly.	Insert new label roll. Check if labels are inserted correctly. Clean the label photocell.

11 Index