Operating manual for
TT4-S

- Translated version of the original operating manual -

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GBTT4SBA.002

91262

Contents

1 Product description

1.1 General description, intended purpose

The TT4-S is a label printer for both thermotransfer printing and also for thermo direct printing, and offers great variability in the printing image design.

Thermotransfer printing requires a special ink ribbon together with the label material. The printing image is produced by heating dots in the ink ribbon with corresponding transfer of the ink particles to the label.

Thermo direct printing is based on using label material with a thermoreactive coating. The printing image is created by heating dots of the material at the thermo print head, causing corresponding changes in colour to the coating.

The use of a high-speed 32 bit Coldfire processor with a clock speed of 266MHz and the main memory of 64 MB produce printing results in a matter of seconds, even for very large labels (up to 2000 mm long). The TT4-S offers the following interfaces for data transfer:

Interfaces	**TT4-S**
Serial interface RS232 C, 8 bit, 1200-230400 baud	●
Serial interface RS422/485, 8 bit, 1200-230400 baud	○
Parallel interface, bi-directional, as per IEEE1284	○
USB 2.0 high-speed slave (for PC connection)	●
Ethernet 10/100 Base T, LPD, RawIP-Printing, DHCP, http, FTP, SMTP, SNMP, NTP	●
WLAN card 802.11b/g	○
Twinax/coax converter	○
2x USB master for keyboard and scanner	●

● = standard, ○ = optional

The printer offers the possibility of using memory cards for permanent storage of graphics, fonts or label descriptions. To this end, the data can be transferred via the above named interfaces. CompactFlash cards type I with capacity of up to 1 GB are suitable memory cards.

The unit must only be used for printing labels, continuous paper and similar materials.

Safe operation of the machine cannot be guaranteed if the TT4-S is not used for its intended purpose.

Compliance with all information in the operating manual is an integral part of proper use.

1.2 Scope of supply

The standard scope of supply includes

- thermotransfer printer TT4-S
- label trough
- operating manual
- driver CD
- empty foil core (mounted on ink ribbon winder)
- power lead
- serial connection lead

1.3 Technical data

Electrical data

Operating voltage:	230 V / 50 Hz
Power:	200 W

Dimensions

Height:	274 mm
Width:	242 mm
Depth:	446 mm
Weight:	9 kg

Printing unit

Resolution:	300 dpi (standard)
Max. printing width:	105.6 mm
Printing speed:	75...250 mm/s (adjustable)

Ink ribbon

Ink ribbon width:	up to 114 mm (the ink ribbon should be at least as wide as the label material, to protect the print head from wear)
Core diameter:	25 mm
Max. roll diameter:	80 mm

Labels

Width:	4...116 mm
Height:	5-2000 mm
Max. thickness:	0.35 mm
Core diameter:	38...76 mm
Max. roll diameter:	210 mm

Label sensor (transparent light/reflection from below)

Distance to lay edge:	5...53 mm

Control panel (buttons illuminated depending on operating mode)

LCD graphic display WxH:	60x40 in mm
Text lines/digits:	4 / approx. 20

1.4 Parts of the printer

1 Retaining screw
2 Roll guide
3 Roll holder
4 Core adapter 76mm (option)
5 Internal winder (option)
6 Sliding guide ring
7 Label light barrier
8 Hex key
9 Lever for locking print head
10 Lid

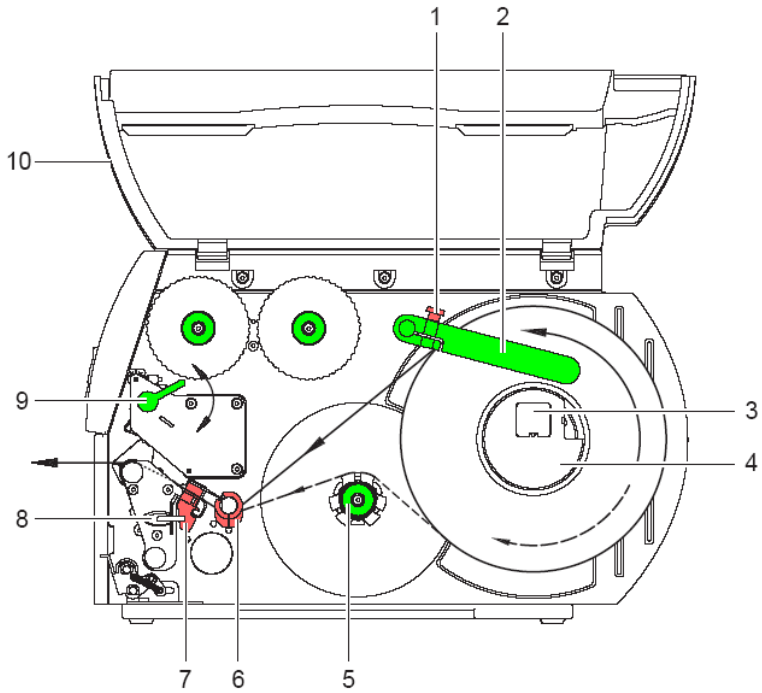


Fig. 1-1 - Parts of the printer

1 Lid
2 Core adapter 76mm (option)
3 Roll guide
4 Roll holder
5 Display
6 Navigator pad
7 Transfer film deflector
8 Printing roller
9 Print head
10 Film winder
11 Film unwinder

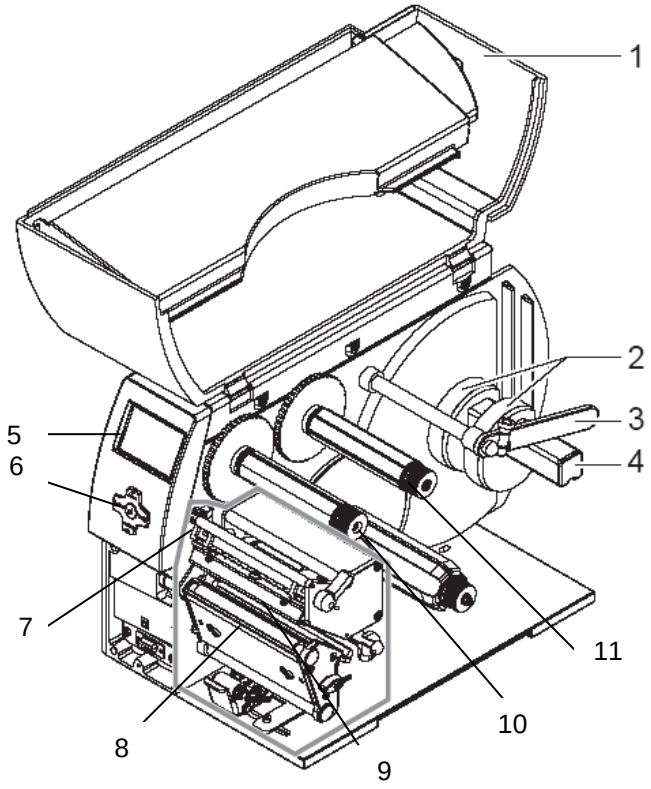


Fig. 1-2 - Parts of the printer

1.5 Properties of the thermo print head

The thermo print head is the most delicate part of your printer. Please always comply with the following instructions.

1. Do not touch the glass safeguard on the print head with your hand. Do not use any sharp objects (knife, screwdriver, etc.) to clean the print head.
2. During printing, make sure that there are no impurities on the label which could be pulled through under the print head. These could damage the head.
3. Ensure the label has a good, smooth surface. Rough label surfaces act as sandpaper and reduce the service life of the head.
4. Clean the head regularly with cotton buds soaked in alcohol.
5. Print at the lowest possible head temperature.

Incorrect handling can damage your print head very quickly.

1.6 Instructions for the lithium battery

The electronic board of your printer is equipped with a lithium battery. Discharged batteries must be disposed of in corresponding old battery collections. If the batteries are not completely discharged, place adhesive tape over the poles to prevent short circuits.
When decommissioning the printer, the battery must always be disposed of separately from the rest of the printer.

1.7 Declaration of conformity

CE Declaration of Conformity

Manufacturer:

ThermoTex Nagel GmbH
Schutterstraße 14
D-77746 Schutterwald

Device description:

Type: TT4-S
Production status: December 2009

The device fulfils the health and safety requirements of the following EC directives:

- **Low voltage directive 2006/95/EC**
  Applied standard: EN 60950-1:2006
- **Electromagnetic compatibility directive 2004/108/EC**
  Applied standards: EN 55022:2006
  EN 55024:1998+A1:2001+A2:2003
  EN 61000-3-2:2006
  EN 61000-3-3:1995+A1:2001+A2:2005

Schutterwald, 17.12.2009

ThermoTex Nagel GmbH

Dietmar Nagel
(Managing Director)

2 Safety instructions

The following warning symbols are used on the machine and in this operating manual:

	Hazard Warning		Warning, dangerous electrical voltage
	Warning of cutting injuries		Disconnect from the power supply

Always comply with the following safety instructions to avoid personal injuries or damage to the printer.

- The printer must only be operated by correspondingly trained and authorised staff who know the manual and are capable of working accordingly,
- Only connect the unit to a power supply with suitable voltage. The unit is rated for AC voltage from 100 to 240 V. Only connect the printer to a grounded power socket.
- Only connect the printer to units with protective low voltage.
- Ensure that all units being connected (printer, computer etc.) are switched off when connecting together. Also switch the units off before disconnecting them.
- Ensure that your printer is not exposed to damp or wet conditions.
- The printer can be operated with the lid opened. In this condition, the rotating parts are freely accessible. Ensure that no hair, jewellery etc. can get caught up in these rotating parts.
- During operation, the print head component can get hot. Beware when touching the component.
- Disconnect the printer from the power supply before starting any cleaning or maintenance work.
- Only qualified maintenance technicians should repair the printer.

Do not open the rear wall! Mortal risk from power supply voltage!

3 Initial commissioning

3.1 Power connection

The printer is equipped with a wide-range power unit (100...240V~) so that it can be operated from a power supply of both 230V~/50Hz and 115V~/60Hz without having to interfere with the printer.

Before connecting your printer to the power supply, make sure that the power switch (1) is in the "0" (OFF) setting.

1 Power switch
2 Power socket
3 Slot for card bus or PC card type II
4 Slot for CompactFlash memory card
5 Ethernet 10/100 Base-T
6 USB interface for keyboard and/or scanner
7 USB high-speed slave interface
8 Serial RS 232 C interface

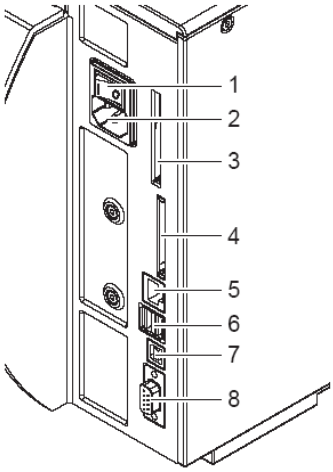


Fig. 3-1 - Connecting the printer

Connect the power lead to the power socket (2) and plug the lead into an earthed socket.

3.2 Connecting to the computer

The standard printer has a serial RS-232 interface (8), a USB high-speed interface (7) and an Ethernet 10/100 Base-T interface (5). For a serial connection, the RS-232 interface of the printer must be configured according to the settings on your computer.

Standard settings on delivery:

Interface	Configuration	
RS-232	Baud rate: 115200 Parity: none Flow control: RTS/CTS	Data bits: 8 Stop bits: 1
Ethernet 10/100 Base-T	DHCP: on	Gateway: off

Connect the computer and printer with a suitable lead and use the screws or straps on the connectors to secure the lead connection.

3.3 General information for inserting labels and ink ribbons

The various control and adjusting elements inside the printer are marked green or red.
Only the green control elements are required to change a label roll or ink ribbon roll of the same width.
It may be necessary to use the red control elements as well when inserting a label roll or ink ribbon roll of a different width.

3.4 Inserting labels

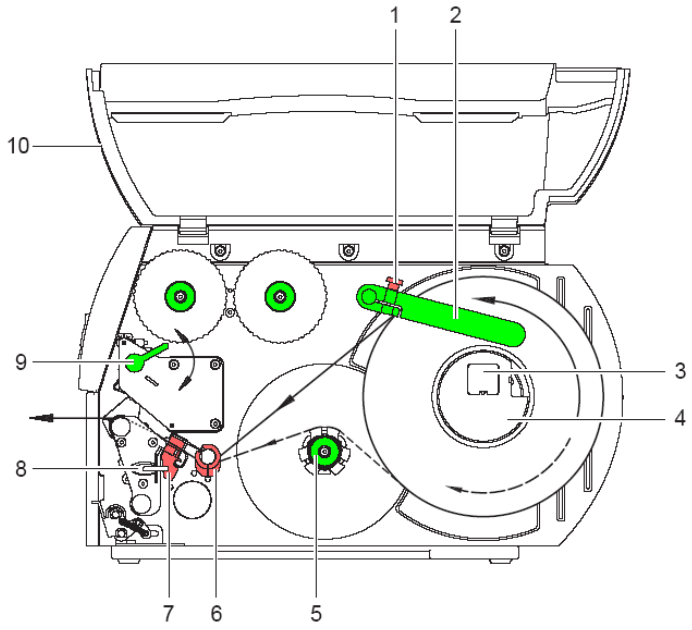


Fig. 3-2 - Inserting labels

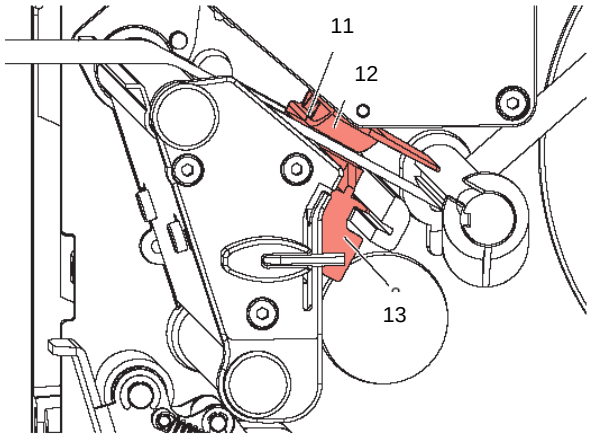


Fig. 3-3 - Adjusting the label light barrier

1. Loosen the knurled screw (1), swivel the guide (2) upwards and push it as far as possible to the outside.
2. Place the roll of labels on the roll holder (3) and unwind a longer strip of labels from the main roll. Push the roll as far as it will go.
3. Swivel the guide (2) down to the roll holder (3). Push the guide against the main roll so that it is braked slightly when unwinding. Tighten the knurled screw (3).
4. Swivel the lever (9) counter-clockwise as far as it will go, thus lifting the print head component.
5. Push the guide ring (6) outwards as far as it will go.
6. Guide the strip of labels through the printer as shown in Fig. 3-2. The run of paper for labels on the outside is shown as a continuous line, the run of paper for labels on the inside as a dotted line.

ThermoTex rolls of labels are on the outside, i.e. the side being printed is on the outside. Exception: ThermoTex fix plastic film: this is on the inside.

7. Adjust the label light barrier (12) so that the actual sensor (11) can register the gap between the labels or the reflection or perforation marks. To adjust, push the label light barrier into the right position using the handle (13).
8. Push the guide ring (6) against the outer edge of the strip of labels.
9. Swivel the lever (9) clockwise as far it will go. This locks the print head.

3.4.1 Adjusting the print head pressure

The print head is pressed in position by two tappets. The outer sliding tappet must be adjusted to the width of the textile tape being used. The sliding tappet must be positioned to produce uniform printing quality. The tappets can be adjusted to prevent any pleating.

1 Setscrew
2 Sliding press-on tappet
3 Lever for locking the print head
4 Ink ribbon defector

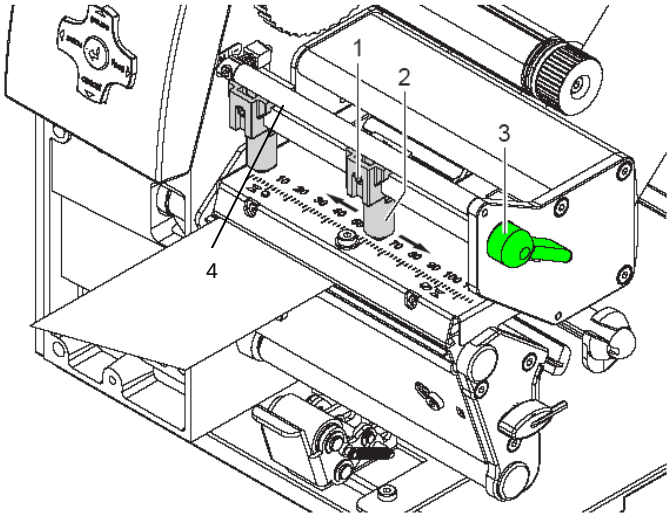


Fig. 3-4 - Print head support

1. Turn lever (3) clockwise to lock the print head.
2. Use hex key to loosen the setscrew (1) at the outer tappet (2).
3. Position outer tappet (2) outside the outer edge of the label and tighten the setscrew (1).

3.5 Inserting the ink ribbon

1 Film winder
2 Ink ribbon
3 Film unwinder
4 Lever for locking the print head

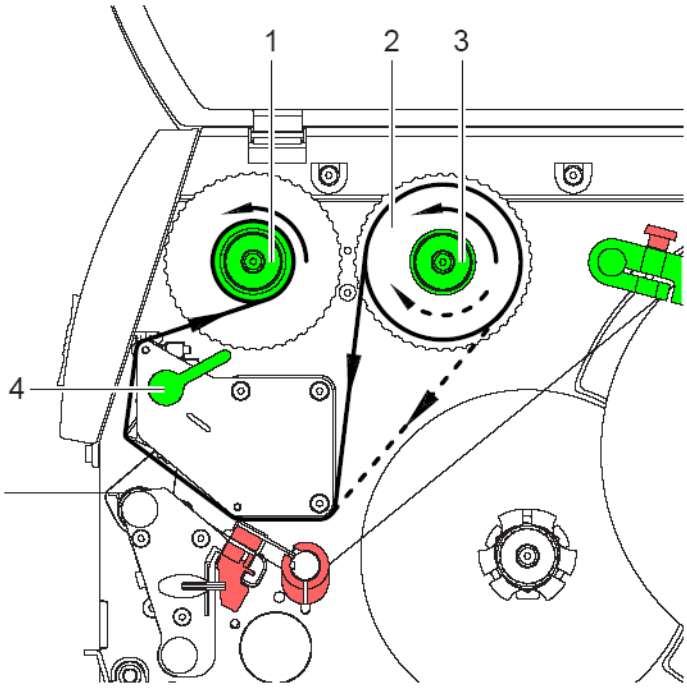


Fig. 3-5 - Inserting the ink ribbon

To prevent premature wear to the print head, only use an ink ribbon which is somewhat wider than the material being printed.

☞ Do not insert an ink ribbon for thermo direct printing.

1. Swivel the lever (4) counter-clockwise as far as it will go, thus lifting the print head.
2. Push the ink ribbon roller (2) onto the unwinder (3) as far as it will go.
3. Hold the ink ribbon roller and turn the green knob counter-clockwise until you notice a resistance. In this way, the ink ribbon roller (2) is clamped to the unwinder (3).
4. Push a film core of a suitable width onto the winder (1) and clamp the film core in the same way.
5. Insert the ink ribbon as shown in Fig. 3-5 and adhere the start of the ribbon to the film core with a piece of adhesive tape. In Fig. 3-5, the continuous line applies to rollers with coated side on the inside, and the dotted line for rollers with coated side on the outside.

☞ ThermoTex ink ribbons have the coating on the outside.

6. Turn the winder (1) counter-clockwise to make the film run smoothly and tautly.
7. Swivel the lever (4) clockwise as far as it will go. This locks the print head.

3.5.1 Adjusting the ink ribbon guide

1 Scale
2 Adjusting screw

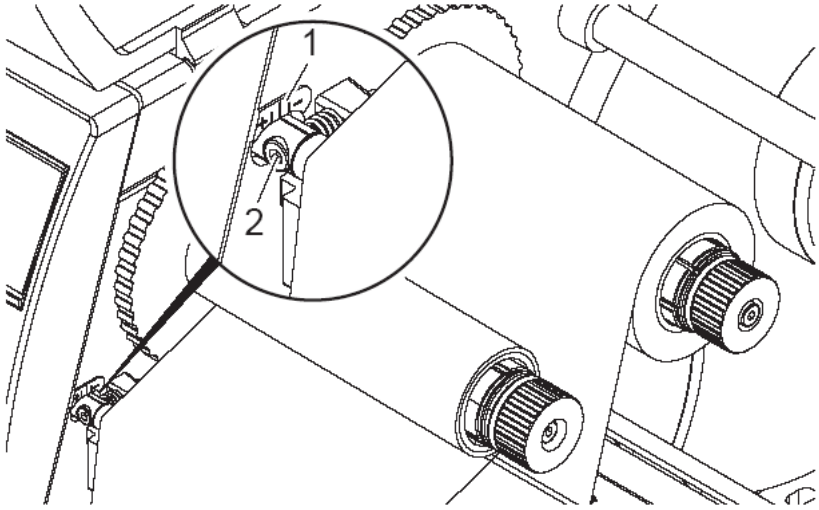


Fig. 3-6 - Adjusting the ink ribbon guide

If pleating should occur in the run of the ink ribbon which can cause faulty print quality, the ink ribbon deflector (4 Fig. 2-4) can be adjusted to correct the fault:

Read off and if necessary note the current setting on the scale (1).
To change the setting, turn the screw (2) with the hex key. Adjust in the "+" direction to tighten the inner edge of the ink ribbon. Adjust in the "-" direction to tighten the outer edge of the ink ribbon.

To suppress pleating, tighten the ink ribbon at the edge where pleating starts.

3.6 Mounting the cutting device

- Disconnect the printer from the power supply before mounting or dismounting the cutting device!
- A tear-off plate (article no. 15986) must be mounted on the printer. This makes sure that the label tape is guided properly through the blades of the cutting device.

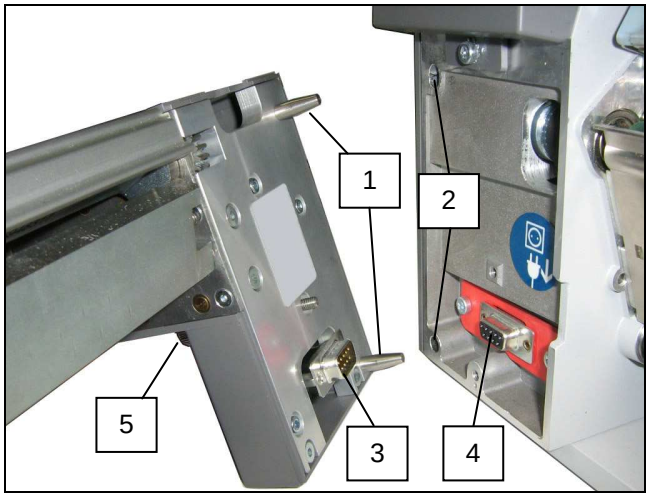


Fig. 3-7 - Mounting the cutting device

- Attach the cutting device to the printer. The positioning pins (1) fit into the holes (2).
- Push together the two parts in order to connect the plugs (3, 4).
- Tighten the screw (5).
- When the printer is turned on, the cutting device will be detected automatically.

4 Operation

4.1 Control panel

1 Display
2 Navigator pad

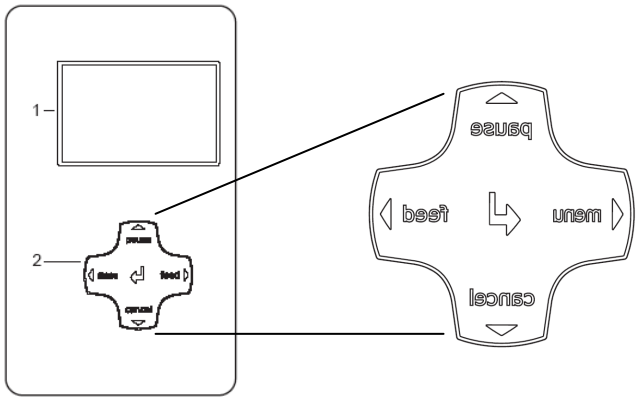


Fig. 4-1 - Control panel

The control panel consists of a graphic display (1) and the navigator pad (2) with four integrated buttons.

The control panel display constantly shows information about the system status of the printer and the processing status of the current print job.

The function of the buttons depends on the corresponding system status. The active functions are marked by the currently valid wording or symbols which light up in the buttons.

When printing, active functions light up white (e.g. menu or feed).
In the offline menu, active functions light up orange (arrows ◂ ▸ ▴ ▾, ↵ button).

4.2 Symbols

Depending on the configuration of the printer, the symbols shown in the table below can appear in the status line of the display. The operator can thus see the current printer status straightaway.

Symbol	**Meaning**	**Symbol**	**Meaning**
	Time		Print head temperature
	Date		PPP credit
	Status of the main film roll	MEM	Memory
	WLAN field strength	INP	Input buffer
FDX 100	Ethernet status		Printer receiving data

4.3 Energy saving mode

Symbol	Meaning
ZZZZ	If the printer is not used for a longer period of time, it automatically switches to the energy saving mode. The navigator pad lighting is switched off. Press any key on the navigator pad to end the energy saving mode.

4.4 Button functions

Button	Status	Function
menu	**ready**	to the offline menu
Feed	**ready**	feed of an empty label
pause	**ready**	repeat print of the last label
	print label	interrupt print job printer goes to **pause** status
	pause	continue print job printer goes to **print label** status
	fault which can be remedied	after troubleshooting, continue print job printer goes to **print label** status
cancel	**ready**	delete print buffer, the last label can no longer be printed after this
	print label **pause** fault which can be remedied fault which cannot be remedied	press and release → cancel current print job press and hold → cancel current print job and delete all print jobs
	system error	press contact hotline if error persists
↵ button	**fault** which can be remedied **fault** which cannot be remedied	go to help function → brief information is shown for remedying the error
	offline menu	press and release → select a value in the parameter level, adopt a selected value or start a function press and hold (> 2s) → leave parameter level without adopting parameter setting
◀	offline menu	select menu points in a menu level or select values in the parameter level press repeatedly in the top menu level to go to the **ready** status from the offline menu
▶	offline menu	select menu points in a menu level or select values in the parameter level
▲ ▼	offline menu	go to a higher or lower menu level or adjust values in the parameter level

4.5 Configuration menu

The configuration menu, also called offline menu, has several levels with possibilities for adjusting device and print parameters, for accessing test and service functions and for handling the memory cards. Go to the menu by pressing **menu** in the **ready** status.

1st menu level		2nd menu level		access
	memory card		load label	only with card plugged in
			print contents	only with card plugged in
			copy card	only with card plugged in, PIN protection possible
			delete card	only with card plugged in, PIN protection possible
			print file contents	only with card plugged in
	short status			
	test		print status	
			font list	
			device list	
			print head profile	
			monitor mode	
			test grid	
			label profile	
	settings		regional settings	PIN protection possible
			device settings	
			print parameters	
			interfaces	
			status bar	
			security	
	Service		new firmware	PIN protection possible
			firmware from card	PIN protection possible
			save settings	only with memory card plugged in, PIN protection possible
			load settings	

5 Settings

The "Settings" menu of the offline menu contains a large number of parameters for configuring your printer to the concrete application. Usually changes are made in this menu mainly during initial commissioning and following fundamental changes to the operating conditions of the printer. Changes necessary when processing different print jobs, for example with different materials, can usually be implemented with the software settings. The complete "Settings" menu can be protected from unauthorised access by a code number (PIN).

☞ PIN "0000" is adjusted as standard code number for TT4-S.

1. Press **menu** in the "ready" state to go to the offline menu.
2. Keep pressing ▸ until the "Settings" menu appears. Press ↵.
3. If the "Settings" menu is protected by a PIN, the following input request appears in the display: "PIN: 0000". Press ▲ and ▼ to change the individual digits of the PIN. The digit being changed flashes in the display and can be selected with ◂ and ▸. Press ↵ to accept the input. When all digits have been entered correctly, the program goes to the "Settings" menu.
4. The parameters are organised in a tree structure. Press ▸ or ◂ to make your selection between the individual sub-menus. Press ↵ to go to the selected sub-menu.
5. On reaching the individual parameter level, the current value of the selected parameter appears in the display under the parameter name. Press ↵ to change the value of a parameter. Press ◂ and ▸ to adjust the parameter. Press ↵ to adopt the value and leave the parameter level.
6. To return to the superordinate menu or to the "ready" state, press ▲ several times and press ◂ in the first menu level. Pressing ↵ for 2 seconds achieves the same effect.

The following table provides a brief overview of the configuration parameters.

Settings - Regional settings

Parameter	**Meaning**	**Default**
Country	Display language, time and date format	Germany
Timezone	Time zone as per UTC (Universal Time Coordinated)	UTC+1
Summer time	Method for adjusting the summer time	EU
Set the date	Setting the date	Current date
Set the time	Setting the time	Current time

Settings - Unit settings

Parameter	**Meaning**	**Default**
Print head offset X	Offset of the printed image in the label crosswise to the print direction	0.0 mm
Print head offset Y	Offset of the printed image in the label in the print direction	0.0 mm
Tear-off position	Parameter for changing the tear-off position	0.0 mm
[Dispenser edge]	Parameter for dispenser light barrier (option)	-
[Blade]	Parameter for cutting blade	0.0 mm
Brightness LCD	Brightness of the background lighting of the display	10
Contrast LCD	Optimising the legibility of the display	6
Energy sav. delay	Delay for changing to the energy saving mode	5 min
Debug mode	Activating the debug mode	off

Settings –-Print parameters

Parameter	**Meaning**	**Default**
Heating energy	Basic setting for print intensity (blackening)	0
Printing rate	Basic setting for printing rate	75 mm/s
Transfer print	Basic setting thermo transfer/thermal direct print ON/OFF	On
Film advance warning	Advance warning when remaining film diameter less than defined amount	Off
Label sensor	Label detection continuous transparent light/reflection from below	Transparent light
Tear-off position	Additional feed at job end ON/OFF	Off
Return transport	Return transport optimised/always for cutting/dispensing mode	Optimised

Fault – reprint	Choice of reprinting a faulty label after eliminating the fault	On
Pause – reprint	Possibility of printing more labels after the end of the job by pressing **pause**	Off
Barcode error	Printing interrupted for faulty barcode contents ON/OFF	On
Wide monitor mode	Definition of printing area for monitor mode test function	Automatic

Settings - Interfaces

Parameter	**Meaning**	**Default**
Set of characters	Selection of characters table	Windows 1252
RS-232	Baud rate / protocol setting	115200, RTS/CTS
Ethernet	Configuration of the Ethernet interface	-
DHCP	Method of issuing the IP address ON/OFF	On
IP	Fixed IP address (only valid for DHCP = OFF)	-
Mask	SubNet mask of the local net (only valid for DHCP = OFF)	-
Gateway	Connection address between local and other networks	Off
Network error	Error status for network problems ON/OFF	Off

Settings – Status bar

Parameter	**Meaning**	**Default**
Clock	Display in status bar ON/OFF	On
Calendar page	Display in status bar ON/OFF	On
Film stock	Display in status bar ON/OFF	Off
WLAN field strength	Display in status bar ON/OFF	Off
Ethernet status	Display in status bar ON/OFF	Off
Temperature	Display in status bar ON/OFF	Off
Credit	Display in status bar ON/OFF	Off
ABC debug	Display in status bar ON/OFF	Off
User memory	Display in status bar ON/OFF	Off
Input buffer	Display in status bar ON/OFF	Off
Card access	Display in status bar ON/OFF	Off
Data transfer	Display in status bar ON/OFF	On

Settings - Safety

Parameter	**Meaning**	**Default**
PIN	Setting, deleting and changing a code number to protect certain functions and settings	0000

6 Test functions

The printer has a series of test functions under the "Test" menu of the offline menu.

1. Press **menu** to go from "ready" to the offline menu.
2. Press ▸ to select "Test". Press ▾ for the level of the test functions.
3. Press ▸ and ◂ to select the required test function and press ↵ to confirm.

For all test functions entailing printing, please insert material which covers the complete printing width.

Test

Brief status
Shows the main configuration and operation parameters in the display
Press ▲ and ▾ to change over between the parameter displays. Press ↵ to leave the status display.

Status printout
Printout of the main configuration and operating parameters, together with a test sample for checking print quality (Fig. 6-1).

Fonts list
Printout of a list with the main parameters of the fonts available in the printer. The list contains both internal printer fonts and also the loaded fonts (Fig. 6-2).

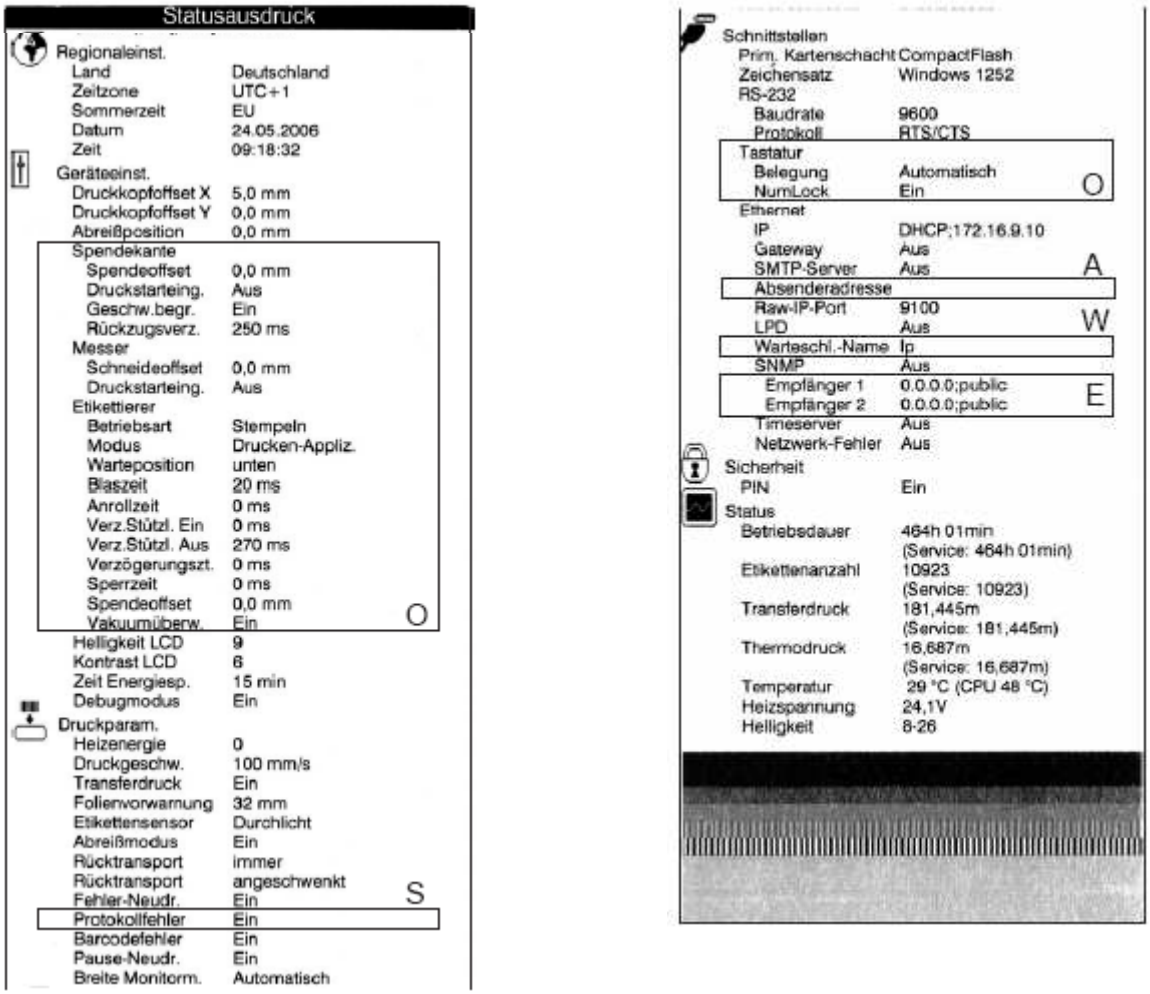
Devices list
Printout of a list of the main hardware components installed in the printer and the connected optional devices (Fig. 6-3).

Print head profile
Printout of a curve diagram showing the resistance values of the heated points in the print head. Increasing resistance values indicate a damaged or defect printing point.

Monitor mode
Printout of the control sequences received from the computer. The print job is sent after changing to the monitor mode. The incoming print commands are not interpreted (Fig. 6-4), but printed out as text (Fig. 6-5). Press **cancel** to leave the monitor mode.

Test grid
Printout of a test sample for assessing print quality.

Label profile
Printout of a curve diagram showing the values measured by the label sensor during material transport.



Statusausdruck

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Zeit	09:18:32	
Geräteeinst.		
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Druckkopfoffset Y	0,0 mm	
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Spendekante		
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Geschw.begr.	Ein	
Rückzugsverz.	250 ms	
Messer		
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Etikettierer		
Betriebsart	Stempeln	
Modus	Drucken-Appliz.	
Warteposition	unten	
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Anrollzeit	0 ms	
Verz.Stützl. Ein	0 ms	
Verz.Stützl. Aus	270 ms	
Verzögerungszt.	0 ms	
Sperrzeit	0 ms	
Spendeoffset	0,0 mm	
Vakuumüberw.	Ein	O
Helligkeit LCD	9	
Kontrast LCD	6	
Zeit Energiesp.	15 min	
Debugmodus	Ein	
Druckparam.		
Heizenergie	0	
Druckgeschw.	100 mm/s	
Transferdruck	Ein	
Folienvorwarnung	32 mm	
Etikettensensor	Durchlicht	
Abreißmodus	Ein	
Rücktransport	immer	
Rücktransport	angeschwenkt	
Fehler-Neudr.	Ein	S
Protokollfehler	Ein	
Barcodefehler	Ein	
Pause-Neudr.	Ein	
Breite Monitorm.	Automatisch	

Schnittstellen		
Prim. Kartenschacht	CompactFlash	
Zeichensatz	Windows 1252	
RS-232		
Baudrate	9600	
Protokoll	RTS/CTS	
Tastatur		
Belegung	Automatisch	
NumLock	Ein	O
Ethernet		
IP	DHCP;172.16.9.10	
Gateway	Aus	
SMTP-Server	Aus	A
Absenderadresse		
Raw-IP-Port	9100	
LPD	Aus	W
Warteschl.-Name	lp	
SNMP	Aus	
Empfänger 1	0.0.0.0;public	
Empfänger 2	0.0.0.0;public	E
Timeserver	Aus	
Netzwerk-Fehler	Aus	
Sicherheit		
PIN	Ein	
Status		
Betriebsdauer	464h 01min (Service: 464h 01min)	
Etikettenanzahl	10923 (Service: 10923)	
Transferdruck	181,445m (Service: 181,445m)	
Thermodruck	16,687m (Service: 16,687m)	
Temperatur	29 °C (CPU 48 °C)	
Heizspannung	24,1V	
Helligkeit	8-26	

Fig. 6-1 - Status printout

Schriftenliste

Nr.	Name	Typ	Beschreibung
-1	_DEF1	Bitmap	Default Font 12x12 dots
-2	_DEF2	Bitmap	Default Font 16x16 dots
-3	_DEF3	Bitmap	Default Font 32x64 dots
-4	OCR_A_I	Bitmap	OCR-A Size I
-5	OCR_B	Bitmap	OCR-B
3	BX000003	TrueType	Swiss 721
5	BX000005	TrueType	**Swiss 721 Bold**
596	BX000596	TrueType	Monospace 821
1000	GHEI21M	TrueType	A R H e i t i M e d i u

Fig. 6-2 - Fonts list

Geräteliste

Name	Beschreibung
CPU	Thor, #132055234528
	PCB-Rev. 4, FPGA-Rev. 4
TPH	600 dpi, 2496 dots
I/F 1	Ethernet 10/100 MBit/s
	MAC: 00:02:E7:00:26:05
I/F 2	USB 2.0 Device
I/F 3	RS-232
CF	15MB (SanDisk SDCFB-16)
	# 24333980906, vde 1.10
USB [1]	Generic/Generic Hub
[0] Full	Rev. 3.00
USB [3]	cab/Frontpanel
[1/4] Full	Rev. 1.02

Fig. 6-3 - Devices list

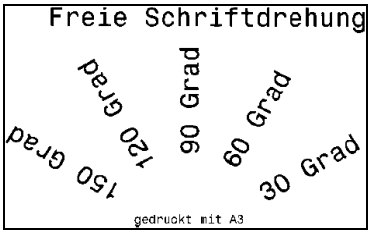

Fig. 6-4 - Example label "normal" printing

```
J
H 100,4,D
S 11;0,0,68,71,108;
T 20,10,0,596,pt18;Freie Schriftdre
hung
T 72,54,30,596,pt18;30 Grad
T 65,46,60,596,pt18;60 Grad
T 56,42,90,596,pt18;90 Grad
T 46,44.5,120,596,pt18;120 Grad
T 38,50.5,150,596,pt18;150 Grad
T 39,60,0,596,pt8;gedruckt mit A3
A 1
```

Fig. 6-5 - Example label in monitor mode

7 External keyboard

All MF-2 compatible USB keyboards supporting code set 3 can be used.
The keyboard is connected to the corresponding socket on the back of the printer.

7.1 Keyboard configuration

The printer is adjusted to the corresponding national keyboards using the settings of the configuration parameter "Country". The printer has a modified keyboard configuration table for every adjustment of this parameter, which is generally based on the DOS configuration.

The button [ALT GR] has no function. Instead, all characters shown on the buttons to the right of the normal characters (e.g. { } [ ] \ ) are accessed with [ALT]. Various special characters (e.g. × ÷) are also accessed using [ALT].

Zeichen	[ALT] + Taste ...										
€	E	E	E	E	E	E	E	E	E	E	E
{	7	'			ä	à	ç	7	8	´	7	B
}	0	=			$	$	à	0	9	ç	0	N
[	8	(			ü	è	^	8	è	`	8	F
]	9	)			¨	¨	$	9	+	+	9	G
\	ß	_			<	<	<	+		°	<	Q
|	<	-	`		1	1	&	<		1	´	W
'									\	0		
´				'	`	'	'	ù				í
`		è						μ		´		ý
^		ç						§				ś
ˇ	^	^	6	6	§	§	²	§	Ì	<	½	;
¨	.		.	.					.			=
~	+	é			^	^	=	¨	ù	4	¨	+
°			0	0				´	0	0		ř
²	2								2			
³	3								3			
#		"			3	3	"		à	3		X
$								4			4	ů
¢					8	8						
£								3			3	
¤		$										¨
@	q	à			2	2	é	2	ò	2	2	V
μ	m								m	m	m	
¬					6	6				6		
÷	/	/	/	/	/	/	/	/	/	/	/	/
×	*	*	*	*	*	*	*	*	*	*	*	*
	GR	FR	UK	US	SG	SF	BE	SU	IT	SP	DK	CZ

Zeichen	[ALT] + Taste
ˇ	č
¸	ž
´	á
˝	é
¸	´
÷	ú
×	)
đ	S
Đ	D
ł	K
Ł	L
ß	§
&	C
<	,
>	.
*	-
	CZ

Table 7-1

/ , * , ... buttons in the numerical block

GR:	Deutschland	FR:	France	UK:	United Kingdom	US:	USA
SG:	Schweiz	SF:	Suisse	BE:	Belgie	SU:	Suomi
IT:	Italia	SP:	España	DK:	Danmark	CZ:	Ceska republika

Other special characters (e.g. œ ñ ç) can be accessed by entering two characters in succession: press [ALT] in each case before entering the second character.

zz	z1	z2	zz	z1	z2	zz	z1	z2	zz	z1	z2
À	`	A	Ò	`	O	å	°	a	ò	`	o
Á	´	A	Ó	´	O	æ	a	e	ó	´	o
Â	^	A	Ô	^	O	ª	_	a	ô	^	o
Ã	~	A	Õ	~	O	ç	,	c	õ	~	o
Ä	¨	A	Ö	¨	O	¢	|	c	ö	¨	o
Å	°	A	Ø	/	O	č	ˇ	c	ø	/	o
Æ	A	E	Œ	O	E	ď	'	d	œ	o	e
Ç	¸	C	Ř	ˇ	R	è	`	e	º	_	o
Č	ˇ	C	Š	ˇ	S	é	´	e	ŕ	´	r
Ď	'	D	Ù	`	U	ê	^	e	ř	ˇ	r
È	`	E	Ú	´	U	ë	¨	e	š	ˇ	s
É	´	E	Û	^	U	ě	ˇ	e	ß	s	s
Ê	^	E	Ü	¨	U	ì	`	i	ť	'	t
Ë	¨	E	Ý	´	Y	í	´	i	ù	`	u
Ì	`	I	¥	-	Y	î	^	i	ú	´	u
Í	´	I	Ž	ˇ	Z	ï	¨	i	û	^	u
Î	^	I	à	`	a	ij	i	j	ü	¨	u
Ï	¨	I	á	´	a	ľ	'	l	ů	°	u
IJ	I	J	â	^	a	Í	´	l	ý	´	y
£	-	L	ã	~	a	ñ	~	n	ÿ	¨	y
Ň	~	N	ä	¨	a	ň	ˇ	n	ž	ˇ	z

Table 7-2

When using a scanner, make sure that it is adjusted to the same character set as the printer.

Special button functions

[F1]	Goes to the label contents directory of the memory card
[F2]	Repeats the last printed label
[F3]	Repeats the last print job with another query about the variable data
[F8]	Form feed
[ENTER]	Outside a print job: change between ONLINE and OFFLINE
	During a print job: confirms data input
[ESC]	Cancels the data input
	During a print job: same effect as CANCEL
[SPACE]	During a print job: same effect as PAUSE
[Shift]+[Entf]	Deletes the input line
[↑], [↓]	Selects labels in the contents directory of the memory card

8 Troubleshooting

When faults occur, a message appears in the print display. It also shows whether the fault can be remedied, allowing for the print job to continue (e.g. textile tape end), or whether this is a fault which entails cancelling the print job.

Faults which can be remedied

The symbol STOP appears in the display. **Pause, cancel** flash in the navigator pad, and ↵ lights up. The display also alternately shows the fault type and the number of labels still to be printed in the current print job.
After remedying the fault, press **pause** to continue the print job.
Press and release **cancel** to cancel the current print job. Press and hold **cancel** (>2s) to cancel all pending print jobs. Press ↵ to access a troubleshooting help text.

Faults which cannot be remedied

The symbol STOP appears and the type of fault is displayed. **Cancel** flashes in the navigator pad and ↵ lights up. The display also alternately shows the fault type and the number of labels still to be printed in the current job.
Press and release **cancel** to cancel the current print job. Press and hold **cancel** to cancel all pending print jobs.

System error

If an error occurs during the system start, the symbol ☠ appears and the type of error appears in the display.
Press **cancel** or switch off/on to remedy the system error.
If the system error occurs persistently, please contact the hotline.

List of fault messages

The following table contains an overview of all fault messages.

Fault message	Possible cause	Action
A/D converter defect	Hardware fault	Switch printer off and on. Inform hotline if occurs again
Barcode too long	Barcode too long for allocated area of the label	Reduce or move barcode
Barcode fault	Invalid barcode content, e.g. alphanumerical characters in numerical barcode	Correct barcode contents
Battery flat	PC card battery is flat	Replace PC card battery
Print head defective	Hardware fault	Switch printer off and on. Replace print head if occurs again
Revision error	Error on loading new firmware. Firmware does not go with hardware	Load suitable firmware
Field name duplicated	Field name duplicated in direct programming	Correct programming
File not found	Accessing a file not on the card	Check card contents directory
Film end	Ink ribbon used up	Insert new ink ribbon
	Ink ribbon melted during printing	Change heating level in the software, clean print head, insert new ink ribbon
	Labels should be processed in thermo direct printing (without ink ribbon) but thermotransfer printing is activated in the software	Change software over to thermo direct printing
	Main roll not clamped firmly on unwinder	Turn knurled knob on unwinder to clamp main roll
FPGA defective	Hardware fault	Switch printer off and on. Inform hotline if occurs again
Device not present	Programming does not trigger existing device	Connect optional device or correct programming
No data set	Error in memory card option on accessing database	Check programming and memory card contents
No DHCP server	Printer is configured for DHCP and no DHCP server is present or DHCP server currently not available	Switch DHCP off in configuration and enter fixed IP address Inform network administrator
No label	Several labels missing on label strip	Press **pause** repeatedly until printer detects next label on strip

	Label format stated in software does not correspond with actual label format	Change label format in software
	Continuous material inserted in printer but software changed over to labels	Change software to continuous material
No link	Network link missing	Check network cable and connector Inform network administrator
No SMTP server	Printer configured to SMTP and no SMTP present or SMTP server currently not available	Switch SMTP off in configuration. E-mail warning (e-alert) no longer possible. Inform network administrator
No time server	Time server selected in configuration and no time server present or time server currently not available	Switch time server off in configuration. Inform network administrator
No size entered	Label size not defined in parameters	Check parameters
Head hinged down	Print head not locked properly	Lock head
Head too hot	Print head overheated for labels with high content level (graphics, much text)	After pause to cool print head down, job continues of its own accord. When this happens again, reduce heating level or print rate in software
Reading error	Reading error on addressing memory card	Check data on memory card, do data backup and re-format card
Medium full	Memory card cannot take any more data	Change memory card
Material too thick	Cutting blade cannot cut through material and stops in undefined status	Switch printer off, take material out of blade, check thickness of material being cut, possibly change material
Blade defect	Hardware fault on cutting blade	Switch printer off and on. Inform hotline when this happens again
Paper end	Main label roll used up	Insert new roll of labels
	Ribbon not inserted properly in label light barrier	Check run of the ribbon
Protocol error	Printer receives unknown or incorrect command from computer	Depending on kind of error, press **pause** to bypass command or press **cancel** to cancel print job
	Different configuration of interfaces in computer and printer	Check interface configuration in the "Settings" menu
Buffer overflow	The data buffer is full and the computer is trying to send other data	Use data transfer with protocol (preferably RTS/CTS)
Writing error	Error in writing on the memory card	Write again, re-format card
Write protected	Write-protection activated on PC card	Deactivate write-protection
Unknown font	Error in selected download font type	Cancel print job. Change font
Invalid setup	Error in configuration memory	Reconfigure printer Inform hotline if this happens again
Voltage fault	Hardware fault	Switch printer off and on Inform hotline if this happens again Display shows which voltage has failed
Memory full	Too much printing information (loaded fonts, large graphics) in print job	Cancel print job. Reduce quantity of information for printing
Structure error	Error in contents directory of memory card, unsafe data access	Reformat card
Unknown medium type	Memory card not formatted or card type is not supported	Format card or use other type
USB error No reaction	USB device detected but does not work	Do not use USB device
USB error Too much power	USB device uses too much power	Do not use USB device
USB error Unknown device	USB device not detected	Do not use USB device

Troubleshooting

Problem	Cause and solution
Ink ribbon pleated	Incorrect setting ink ribbon deflector
	Incorrect setting print head press-on system
	Ink ribbon too wide. Change ink ribbon to just a few mm wider than label material
Smears or blanks in print image	Print head soiled. Clean
	Temperature too high. Reduce heating energy in software
	Unsuitable combination of labels/ink ribbon. Use suitable combination.
Printer does not stop at ink ribbon end.	Thermo direct printing adjusted in software. Change to thermotransfer printing
Printer won't print. Fault message: paper end.	No labels in label light barrier. Correct run of tape
	Label light barrier soiled. clean
Printer prints row of characters instead of label format.	Printer in monitor mode. Cancel monitor mode.
Printer transports label material, ink ribbon not moved too	Ink ribbon incorrectly inserted. Check whether coated side points to label material
Printer only prints every second label	Format setting in software too large, correct setting
Vertical white lines in print image	Print head soiled. Clean print head
	Print head defect (failure of heated points). Replace print head
Horizontal white lines in print image	Printer is optimised in cutting or dispensing mode with the setting "return transport optimised". Change return transport to "always" in setup
Print image lighter on one side	Print head soiled. Clean.
	Incorrect setting of print head press-on system. Adjust
Fault message "ribbon end" although ink ribbon inserted in machine.	Ink ribbon roll not clamped to unwinder. Unwinder does not turn. Clamp roll
Marking tape and ink ribbon stick to each other	Reduce temperature value in software or heating energy in printer configuration menu
Print colour too weak	Increase temperature value in software or heating energy in printer configuration menu
Ink ribbon tears	Reduce temperature value in software or heating energy in printer configuration menu
Slanted pleating in ink ribbon with negative influence on printing quality	Adjust outer pressing tappet and transfer film deflector

Please address any questions to our technical hotline in Germany
Tel.: 00 49 781/9616-36, Fax: 00 49 781/9616-30, E-Mail: hotline@thermo-tex.de

For clients from Switzerland: Tel.: 00 41 61751/9100, Fax: 00 41 61751/9101,
E-Mail: info@thermo-tex.ch

9 Cleaning

Disconnect the printer from the power supply before cleaning the printer!

9.1 General cleaning

It is possible for dust particles to gather during printing, particularly around the print mechanism. Remove these particles with a soft brush or vacuum cleaner. Use a multi-purpose cleaning agent to clean the outer surfaces of the printer.

Do not use scouring agents or solvents!

9.2 Cleaning the printing roller

A soiled printing roller can impair the print image and hinder material transport.

1. Swivel the print head down.
2. Take the labels and ink ribbon out of the printer.
3. Remove all deposits using spirits and a soft cloth.

9.3 Cleaning the print head

It is possible for impurities such as dust or ink particles from the ink ribbon to accumulate around the print head during printing. This results in a clear deterioration in print quality.

We recommend the following cleaning intervals:
Thermo direct printing: every time after the roll of labels has been changed
Thermo transfer printing: every time after the ink ribbon roll has been changed

Do not use any sharp or hard objects to clean the print head!

Do not touch the glass safeguard of the print head with your bare hands!

Clean the print head as follows:

1. Swivel the print head down.
2. Take the labels and ink ribbon out of the printer.
3. Clean the surface of the print head with cotton buds soaked in alcohol.
4. Leave the print head to dry for approx. 2 – 3 minutes before starting the printer again.

9.4 Cleaning the label light barrier

During printing, the label light barrier is exposed to soiling particularly from dust. In the worst case, this can cause problems with detecting the start of the label. The label light barrier must then be cleaned.

1 Lever for locking print head
2 Sensors
3 Stopper spring
4 Light barrier unit
5 Hex key

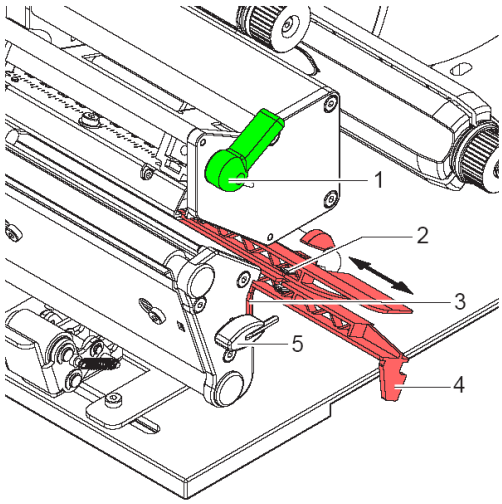

Fig. 9-1 - Cleaning the label light barrier

Do not use solvents to clean the light barrier!

Do not use sharp objects to clean the sensors!

1. Turn lever (1) counter-clockwise to lift print head.
2. Take label material and ink ribbon out of the printer.
3. Take the hex key (5) out of its holder.
4. Compress the stopper spring (3).
5. Using the handle (4), pull the label light barrier slowly as far as it will go. Release the stopper spring (3). Ensure that the light barrier cable is not pulled taut.
6. Clean the label light barrier and in particular the sensors (2) with a brush or with a cloth soaped in alcohol.
7. Push the light barrier back into its starting position.
8. Push the hex key (5) into its holder
9. Insert label material and ink ribbon
10. Lock the print head with the lever (1) in clockwise direction

9.5 Cleaning the cutting device

- Disconnect the printer from the power supply to prevent the blade from moving accidentally
- Caution! The knife blades are sharp. Risk of injury!

- Remove dust with a soft brush or vacuum cleaner.
- Remove all deposits on the blades using isopropyl alcohol and a soft cloth.
- If the device has been used to cut self-adhesive labels, adhesive residues may have settled on the blades and on the print roll. In this case, clean the blades and the print roll at shorter intervals
- If necessary, lubricate the cylindrical surface (see arrow) of the blade with high performance grease.

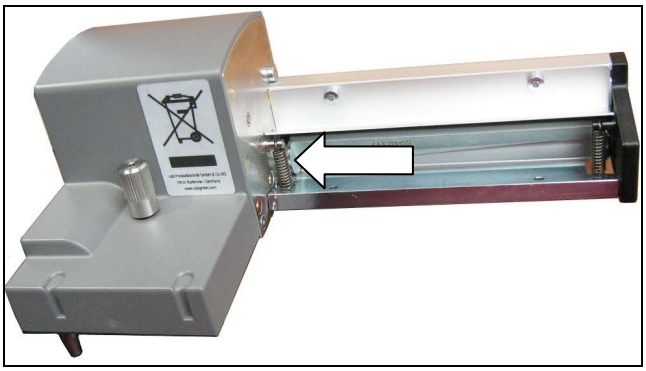

Fig. 9-2 - Cutting device

10 Spare parts list

Designation	ThermoTex Article No.
Cutting device	14076
Perforation scissors	14308
External rewinder	14480
Label trough	13055
CompactFlash memory card 32 MB	14078
CompactFlash memory card 256 MB	15831
Print head 203dpi	15649
Print head 300dpi	15648
Printing roller	15647
Connection adaptor to parallel-port	15527
Core adaptor 76mm	15576
Cleaning set	50393