

Kiosk Printer Module

GPT-6762/6763

High Speed Kiosk Printer

RS232 or USB • 203 dpi
Text and Bar Code Graphics
Up to 200 mm/s Fast

GeBE®

**Elektronik und
Feinwerktechnik GmbH**

Modules and devices for input,
analysis, display and printing of
analog and digital data.

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Operating Manual

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1 Safety Instructions

1.1 Symbols and their Meaning

Carefully read all safety instructions!



ATTENTION

concerns your **personal safety** and **must be observed at all times**. It is essential to forward these instructions to all other personnel using this device.



Caution hot surfaces

concerns your **personal safety** and signals a **risk of being burned** upon touch. It is essential to forward these instructions to all other personnel using this device.





TIP


concerns **equipment safety**.

The adherence of all instructions, as well as the appropriate application and use in accordance with the operating instructions are binding for product liability and product warranty. Attempts by the customer to repair the device will make all warranty claims null and void.

For technical questions, please contact GeBE Technical Support.

Instructions marked with a  require consultation with GeBE Technical Support.

Tips marked with a  will help you to utilize your printer to its fullest.

Documents or Internet links are marked with a , referring to more detailed or additional information.

1.2 Device Information

Safe operation of this device is only warranted, if the instructions in this operating manual have been complied with.



For installation:

Always disconnect system power supplies.

Only use original parts and accessories.



TIP

- The device may only be opened or repaired by authorized personnel. Never open the device or carry out repairs yourself. Always contact authorized technical service personnel.
You can find all relevant data in the chapter "Service and Maintenance".
- Before the device is turned on, make sure that the system voltage of your installation matches the supply voltage of the device.
The device characteristics are printed on the name plate and in the technical data.
 - The name plate is located on the underside of the device.
 - For the technical data of this device, refer to the chapter "Technical Data".

- Peripheral devices that are connected to the interfaces and the DC circuits of this device have to meet the requirements for low safety voltage in accordance with EN/IEC 60950.

- Switching off the device does not completely disconnect it from the power supply. Your device is only disconnected completely, when the power is unplugged.



ATTENTIONN

- Please make sure that the power supply cable is routed in such a way that it is not a trip hazard, and it cannot be damaged by other devices.



CAUTION hot surfaces

- During operation, surfaces in the surrounding area of the print head may heat up. Therefore, direct contact with the print head must be avoided to prevent burning accidents. Do not put heat sensitive objects close to this heat source.



TIP

- Avoid constant high humidity and condensation. Protect the device from being splashed and from coming in contact with chemicals.
- Only use spare parts and accessories supplied or authorized by GeBE. The use of unauthorized parts or accessories may considerably affect the function and safety of the device. All parts included are listed in the chapter "Packing List", while the original accessories are listed in the chapter "Parts and Accessories".
- It is no longer possible to safely operate the device, if:
 - the housing has been damaged due to mechanical overload.
 - moisture reached the inside of the device
 - smoke is coming from the inside of the device
 - the power supply cord is damaged
 - the device stopped working properly.



Unplug or turn off the device immediately, when such a failure occurs, and contact GeBE customer service. See chapter "Service and Maintenance".



TIP

We explicitly state that all product liability and guarantee claims are null and void, if the device has not been used in accordance with the instructions in this operating manual or on the device itself, or if it has been used inappropriately.

2 Description

Fast Printing

Various applications - especially in the public domain - require considerably faster data output than most conventional thermal printers in the market can reach with about 50-80 mm per second. The new GeBE printer series GPT-6762/6763 for 2" or 3" paper width prints up to 200 mm per second, up to four times faster than most conventional thermal printers.

GeBE Controller

Controller GCT-6782, developed by GeBE and controlling these fast printouts, has been combined with a robust printer mechanism based on the mechanics of the established industrial printer module family INFO from GeBE to form a new product. In addition to its speed, this high speed printer for the kiosk area stands out due to high reliability, its service and application friendliness.

Where for instance impatient pulling at the printout by the user used to often cause costly damage to the printer mechanisms or the cutter, experience has shown that the considerably faster print output can counteract this problem.

Strong Printer Mechanism

The strong printer mechanisms are able to transport paper rolls with a diameter of up to 100 mm (or more

by reducing the print speed), noticeably increasing service intervals. Authorized papers may have a thickness of up to 135 µm, with special papers - within limits - even up to 150 µm. This makes the GPT-6762/6763 high speed printer ideal for ticket printing.

Extensive Layout Commands

Extensive layout commands and eight character sizes to choose from contribute to an attractive design of the receipt printout.

Easy Customization of the Software

Settings such as blackening, text size, RS232 control, etc. can be set up by the user. On request, command and character set adaptations can also be performed at the factory.

Downloads

Firmware, fonts, logos, macros, settings, etc. can simply be sent as a file from the PC through the active interface to the printer, where they are stored permanently.

3 Layout and Functions

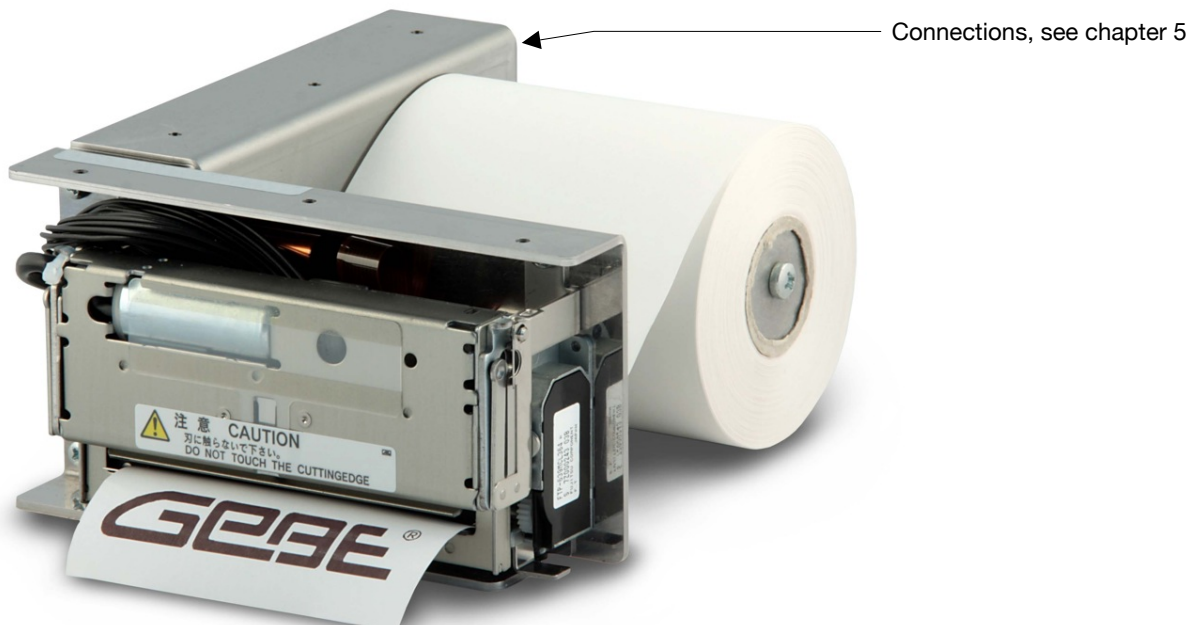


TIP

The technology and equipment of the product described in this manual are in accordance with the latest state of national and international requirements in regard to function and safety. Further developments and advancements are continuously being considered. For this reason, illustrations, dimensions, technical data, and general content shown in the following may change without prior notice.

This operating manual is designed to help you operate our product, which has been developed and manufactured according to the most modern technology standards, with its multiple options, optimally and securely. Please read this manual carefully before initial operation and store it in close proximity of the device, so it will be available if needed.

Should you have any further questions, please contact our personnel. Phone numbers and email addresses are listed in the chapter "Service and Maintenance".



4 Packing List

4.1 Unpacking

Please check during the unpacking process that all parts have been delivered completely and undamaged. Make sure to remove all parts from the packaging material. Claims for damages caused during transport can only be asserted, if the carrier is informed without delay. Please prepare a survey report and send it back to the supplier along with the damaged part.

Standard versions of the kiosk printer modules

(OEM) in den widths 2" or 3" are supplied without accessories. Please order those separately.

The operating manual is included: SMAN-D-630 in German or the English version SMAN-E-629.

All current documents are listed on the Internet at www.oem-printer.com/info.

User manuals for the GeBE thermal printer controllers installed in the printer can be requested from GeBE via email (sales.ef@gebe.net).

4.2 Standard Accessories

- 1 roll of thermal paper matching the printer width
- interface cable for RS232 or USB (depending on version)
- paper catch
- power supply

4.2.1 Standard Paper

A=outside coating, WR=water resistant

- GPR-T01-060-070-025-080A/WR:
50 pcs. thermal paper rolls w: 60 mm, th: 80 µm, diameter: 70 mm, core diameter: 25 mm, life: 7 years
- GPR-T01-060-110-025-080A/WR:
50 pcs. thermal paper rolls w: 60 mm, th: 80 µm, diameter: 110 mm, core diameter: 25 mm, life: 7 years
- GPR-T01-060-150-025-080A/WR:
50 pcs. thermal paper rolls w: 60 mm, th: 80 µm, diameter: 150 mm, core diameter: 25 mm, life: 7 years
- GPR-T01-082-070-025-080A/WR:
50 pcs. thermal paper rolls w: 82 mm, th: 80 µm, diameter: 70 mm, core diameter: 25 mm, life: 7 years
- GPR-T01-082-110-025-080A/WR:
50 pcs. thermal paper rolls w: 82 mm, th: 80 µm, diameter: 110 mm, core diameter: 25 mm, life: 7 years
- GPR-T01-082-150-025-080A/WR:
50 pcs. thermal paper rolls w: 82 mm, th: 80 µm, diameter: 150 mm, core diameter: 25 mm, life: 7 years

4.2.2 Cables

- GKA-245-1-500
power supply, 2 individual wires 1.0 mm², 500 mm, one end open, wire end sleeves
- GKA-304-2000
round cable, 2,000 mm, RS232, 1:1 extension Sub-D 9pin
- GKA-543-1-1800
USB cable with locking, interface type A to type B, 1,800 mm
- GKA-567-2-2000
USB cable with locking, incl. 2 screws HM1661, 2,000 mm

4.2.3 Power Supply

- GNG-24V-6.5A-AC:
open frame power supply 24 V / 6.5 A
- GKA-352-2-1500
power cable, 3pin, 1500 mm
- GKA-245-1-500
power supply cable, 2pin, 500 mm

4.3 Driver Software

Printer controller GCT-3793 is supported by the following Windows® drivers:

Windows® CE.Net 4.2, 5.0, Windows® 2000, and XP

The driver software is available for download from the Internet at: www.oem-printer.com/info

4.4 Options

- paper removal sensor
- custom roll holder for paper rolls with a diameter > 80 mm
- USB lock

5 Connecting the Printer

For installation:
Always disconnect system power supplies!



5.1 Power Supply (1)

The power supply is connected through commercial connectors from the supplier Phoenix.
The connectors are equipped with screw clamps.
Mounting merely requires a size 1 screw driver. Wires have to be covered with wire end sleeves.

Connector Type MSTB-2.5/2-ST-5.08

5.2 USB Interface (2)

The USB output is a USB socket type B.

5.3 Serial Interface (3)

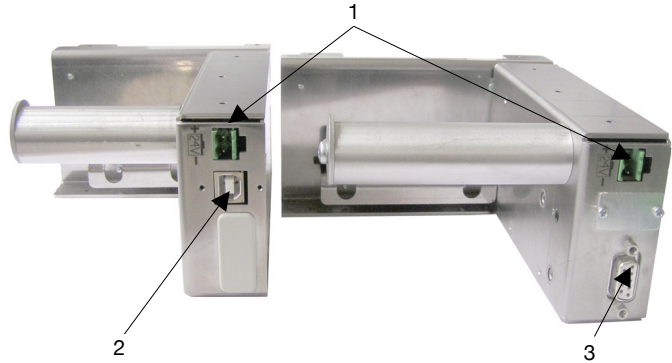
The RS232 output is a 9 pin SUB-D socket.

5.4 Cable Diameter

0.5 mm² for cable length < 0,5 m

0.8 mm² for cable length < 1.5 m

1.0 mm² for cable length < 2.0 m



6 Installation

6.1 Installation as a Printer with Paper Catch

The GPT-676x has six M3 mounting holes each at the upper and lower mounting plane of the housing. Please select the mounting plane according to the paper curve and the placement of the paper catch.

There are three alternatives for storing the paper roll to optimize the paper roll diameter and the mounting plane. The paper axle can be unscrewed from the outside and reattached in other positions.



ATTENTION: Use thread locking compound.

The mounting plane allows paper rolls with a diameter of up to 150 mm. For mobile applications, the paper cutter can be additionally secured against independent unfolding with an optional locking device.



Important Notes Regarding Paper Catch

Solutions:

1. Electrostatic Charging of the Tickets

Tickets rubbing against plastic, ungrounded surfaces etc., may cause electrostatic charging of the ticket which may lead to the ticket getting stuck in the shaft.

Proposed Solutions:

- Potential equalization of all metallic surfaces
- Use of electroconductive "brush" at paper outlet
- Use of antistatic paper

2. Humidity in the Paper

Temperatures at or below the dew point cause the paper to absorb humidity, which may result in the paper getting stuck in the shaft.

Proposed Solutions:

- Air-conditioning
- Use of top coat paper

6.2 Moving the Paper Axle for Larger Paper Roll Diameters

The GPT-676x has three axle positions to enable the use of paper rolls with different roll diameters. The default status is "axle position standard" (-AS).

In the axle position standard, the external dimensions of the printer are not exceeded, if the roll diameter is below 70 mm. The maximum roll diameter for the standard position is 130 mm.

The axle positions top (-AO) and bottom (-AU) allow the use of rolls with a diameter of up to 150 mm.

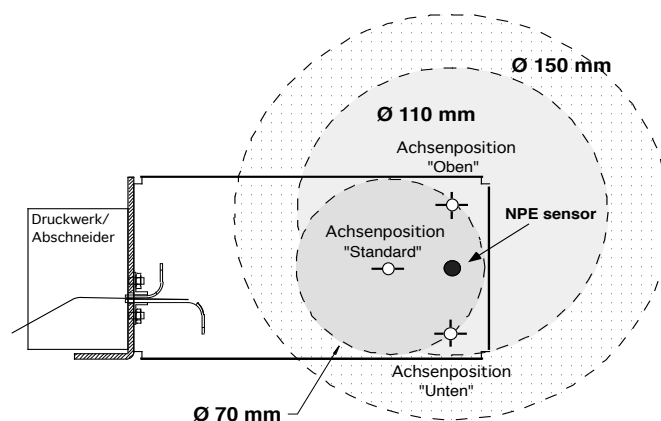
The external dimensions of the printer are not exceeded, if the roll diameter is below 110 mm.

To change axle positions, the axle is easily unscrewed counterclockwise and then reattached in the new position.



ATTENTION

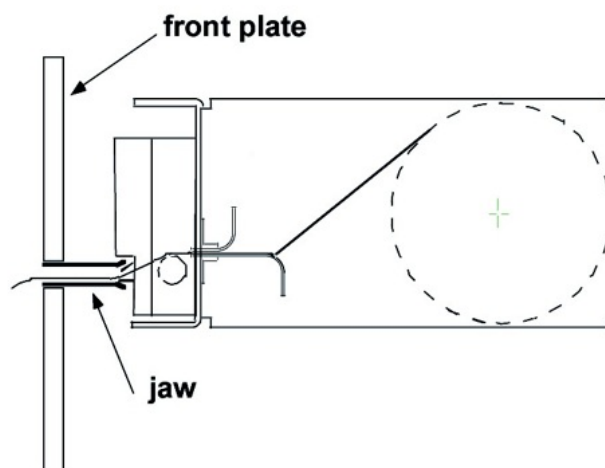
The new screw connection is to be tightened and secured with a thread locking compound.



6.3 Installation as Front Panel Printer

The GPT-676x has six M3 mounting holes each at the upper and lower mounting plane of the housing.

The transission of paper between the printer mechanism and the front slot requires a guide that can even be about 1 cm shorter than the printed receipt, provided that the length of the receipts always remains the same. This prevents the paper from being obstructed for longer periods of time during the print process.



6.4 Exchanging the Paper

Which Thermal Paper is Suitable?

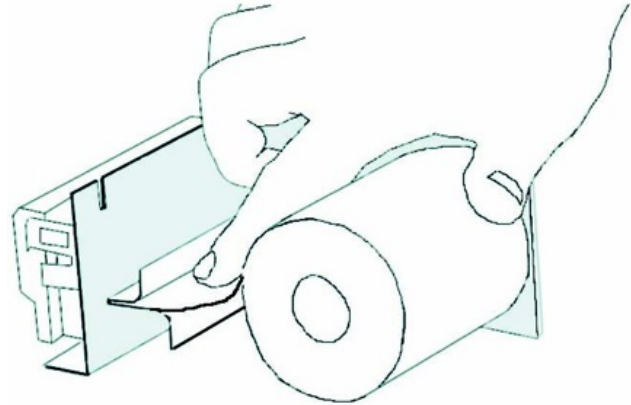
The printers are specified for 60 mm and 82 mm +/- 0.5 paper widths, up to 150 µm paper thickness.

Other papers may cause failures.

Thermal papers that are resistant against water, grease, or alcohol are available for special applications. We will gladly assist you in selecting the right thermal paper for your purposes.

Which side of the thermal paper can be printed on?

When in doubt, try the finger nail test: Quickly run the tip of a finger nail across the paper, applying pressure. The friction heat will cause blackening on the thermo-sensitive side.



Inserting the Paper

For printers with metal guide on the side:

- Pull empty paper roll core off of the paper axle.
- Replace with new paper roll.
- Position paper on the paper feeding tray and push it toward the printer mechanism (see illustration).
- As soon as the printer mechanism recognizes the paper, it is automatically pulled inside.
- The paper is now inserted.

7 Status Signals of the Printer

The bits are defined as follows:

Status Byte 1

Bit	LED	Status	0	1
0	on	paper near end	paper low	paper OK
1	1:1	paper	present	not present
2	1:1	temperature	temperature OK	print head too hot/cold
3	1:1	head	closed	open
4	1:1	paper jam/cutter	no error	error
5	on	Rx error	no error	Rx error
6		always 0		
7		always 1.		

Mode 2 is activated through bit 1 in parameter 23.

To signal an error status, two bytes are sent to the host at all times.

The two bytes can be distinguished by bit 6:

Status Byte 2

Bit	LED	Status	0	1
0	on	AUX1 (label blackmark)	paper present	no paper
1	on	AUX2	paper present	no paper
2	on	AUX3	paper present	no paper
3	on	AUX4	paper present	no paper
4		always 0 (identifier)		
5		always 0 (identifier)		
6		always 1 (identifier)		
7		always 1 (identifier)		

8 Serial Interface RS232

The RS232 interface (standard component) is connected through a 9-pin Sub-D connection on the board.

If TTL levels are required (e.g. for external level converters), the internal converter can be replaced by 0-Ohm bridges.

9,600-460,800 baud, standard 115,200 baud, 8 data bits, no parity, 1 stop bit, hardware and software handshake. The baud rate can be adjusted through the software.

The input buffer has a capacity of 256 bytes.

Baudrate:	150 - 460,800 bps
	The baud rate can be adjusted with a software command.
Data Bits	= 7, 8
Stop Bits	= 1, 2
Parity	= none, even, uneven
Flow Control	= hardware and software handshake

Errors signaled through status bit: buffer overflow, framing error, parity error

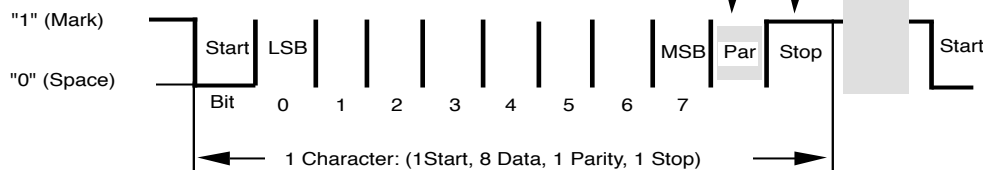
Functions of the serial interface are the transfer of print data and handshaking. A hardware and a software handshake are available.

The handshake line DSR (data set ready) is controlled together with the total input buffer. At the same time, the signal is controlled with XON and XOFF.

The input buffer has a capacity of 256 bytes. At 224 bytes, the printer sends an XOFF (13h) and sets the DSR (busy signal). At 32 bytes, the printer sends an XON (11h) and deletes the busy signal.

Attention : the standard configuration has 1 stopbit

Attention : the standard configuration has no paritybit



Signal	Level on TTL interface	Level on RS-232 interface
"1" (Mark)	+5V (TTL-level)	-3V ... -12V
"0" (Space)	0V (TTL-level)	+3V ... +12V

Pin	Signal	Input/Output	Comment
1	DCD	O	Connected with CTS and DTR
2	RXD	O	Error signals and Xon/Xoff messages
3	TXD	I	Print data
4	DTR	I	Connected with DCD and CTS
5	GND	-	
6	DSR	O	Level logic 0 = controller ready
7	RTS	I	Handshake input of the controller
8	CTS	O	Connected with DCD and DTR
9	RI		Not connected

SUB-D 9-pin female

9 Interface USB

The GCT-3793 can be equipped with an USB interface (USB printer class) :

USB V1.1 full speed (12 Mbit/s)

USB V2.0 compatible (full speed/12 Mbit/s)

The connections is done through a USB connector type B.

The standard setting is Windows® CE through J5.

USB Specification	V1.1 (V2.0 compatible)	
Device Type	Vendor Specific Device or Printer Class	
USB	Full Speed 12 Mbit/s	
Power Consumption	No Printing	Typ.
	USB active /Printer active	30 mA
	USB active /Printer sleep	25 mA
	USB suspend / Printer sleep	300 μ A

Pin	Signal	Input/ Output	Comment
1	Vcc-USB	-	
2	D-	I/O	
3	D+	I/O	
4	GND	-	
USB Type B			

USB Printer Class:

The USB device class is "Printer Class".

When plugged in, the PC will report "USB printer support" and install a "USB001"USB port.

Either the standard printer driver of the "system78" or the port monitor can be used. During the installation of the printer driver, it can be easily guided to the USB port.



Windows XP and Windows CE handle the numeration of a printer differently. Therefore, the printer must be configured to the operating system before delivery.



Never activate an action in the printer driver at the job end. This can cause a loss of data.

10 Character Sets

! " # \$ % & ' () * + , - . / 0 1 2 3 4 5 6 7 8 9
: ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V
W X Y Z [\] ^ _ ` a b c d e f g h i j k l m n o p q r s
t u v w x y z { | } ~ Δ Ç Ü é â ã ä å ç è é ê ì î ï Æ Æ
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÷ × ° • √ ⁿ ² ³

Optional Character Sets

The following character sets are currently available and can replace other character sets in the flash memory of the µ-processor. Please contact us with your inquiry. GeBE will gladly create additional character sets.

Cyrillic

0 1 2 3 4 5 6 7 8 9 A B C D E F
0 1 2 3 4 5 6 7 8 9 A B C D E F
1 2 3 4 5 6 7 8 9 A B C D E F
2 3 4 5 6 7 8 9 A B C D E F
3 4 5 6 7 8 9 A B C D E F
4 5 6 7 8 9 A B C D E F
5 6 7 8 9 A B C D E F
6 7 8 9 A B C D E F
7 8 9 A B C D E F
8 9 A B C D E F
9 A B C D E F
A B C D E F
B C D E F
C D E F
D E F
E F
F

Font Sizes

The number of printable characters per line depends on the physical features of the printer used. The table below lists some examples:

Font	432/576/640 Dots/Line	Width	Height
Small Font (8x16)	54/72/80 CPL	normal	normal
Low Font (16x16)	27/36/40 CPL	double	normal
Narrow Font (8x32)	54/72/80 CPL	normal	double
Normal Font (16x32)	27/36/40 CPL	double	double
Wide Font (32x32)	13/18/20 CPL	quadruple	double
High Font (16x64)	27/36/40 CPL	double	quadruple
Large Font (32x64)	13/18/20 CPL	quadruple	quadruple
Xlarge Font (64x128)	6/9/10 CPL	eight times	eight times

11 Troubleshooting and Recovery

Not every failure means that there is an error that cannot be cleared by the user himself. You will save time and money by recognizing and fixing simple errors on your own. The following tips are meant to help you with this:

Hardware RESET: Activated by unplugging and reconnecting the power supply after a short break.

This sets the printer in accordance with the TINIT-F and/or the TINIT-E in the batch file.

Symptom	Ursache	Abhilfe
The printer seems to be printing, but the paper is not blackened.	Paper inserted incorrectly.	Insert paper correctly.
The printer only prints a few characters in one line. If more is entered, it stops printing altogether.	The power supply is not optimal.	Use sufficiently sized power supply and short feed lines. Check all connections for possible transfer resistances. Since high peak currents occur with thermal printers, even the smallest transfer resistances can result in intolerable voltage drops. In this case, no power supply would be strong enough. Buffering with capacitors is possible, if the power supply is only too weak by a small margin and large capacitors (e.g. 4,700 µF; high switching capability) are used.
The printer only prints a few dots in one line.		
After a few characters, the printout starts to be incomplete.	The printer buffer is "over-run" (160 bytes), causing loss of data.	Solution: Use or check handshake. (software: Xon/Xoff or hardware). If necessary: slow down transmission speed, e.g. down to 1,200 baud. (See MAN-D-376 Interface Settings)
The printer prints the wrong characters.	TTI instead of RS232 interface or vice-versa. (Characters of the upper area are printed).	Use correct interface.
	Bad ground connection of the printer causing a part of the printing current to flow through the interface cable. This leads to an increase in potential there, which results in data corruption.	Repair ground connection.
	Host sends a break signal after print job (only "?" are printed).	GeBE can adjust this. Please give us a call.
Printer works with a PC, but not at the machine.	Printer is electrically incompatible with the host.	Measure level of the line signaling the errors. GeBE can adjust this.

12 Service

Warranty

We guarantee that all goods supplied by GeBE possess the warranted features. The guarantee period for OEM's is 12 months unless other terms have been agreed upon in writing, and is calculated from the date of shipment.

The warranty is null and void, if the customer fails to claim an occurring defect without delay and in writing. Detailed information on our warranty is part of our terms of delivery and payment, which can be seen and downloaded at www.oem-printer.com/lzb (home page chapter: About Us).



Service

For service or questions, please contact: GeBE Elektronik und Feinwerktechnik GmbH
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Phone: +49 (0) 89/894141-31 • Fax: +49 (0) 89/8402168 • e-mail: sales.ef@gebe.net



Further Information

Further information on the INFO printer series is available at www.oem-printer.com/info.

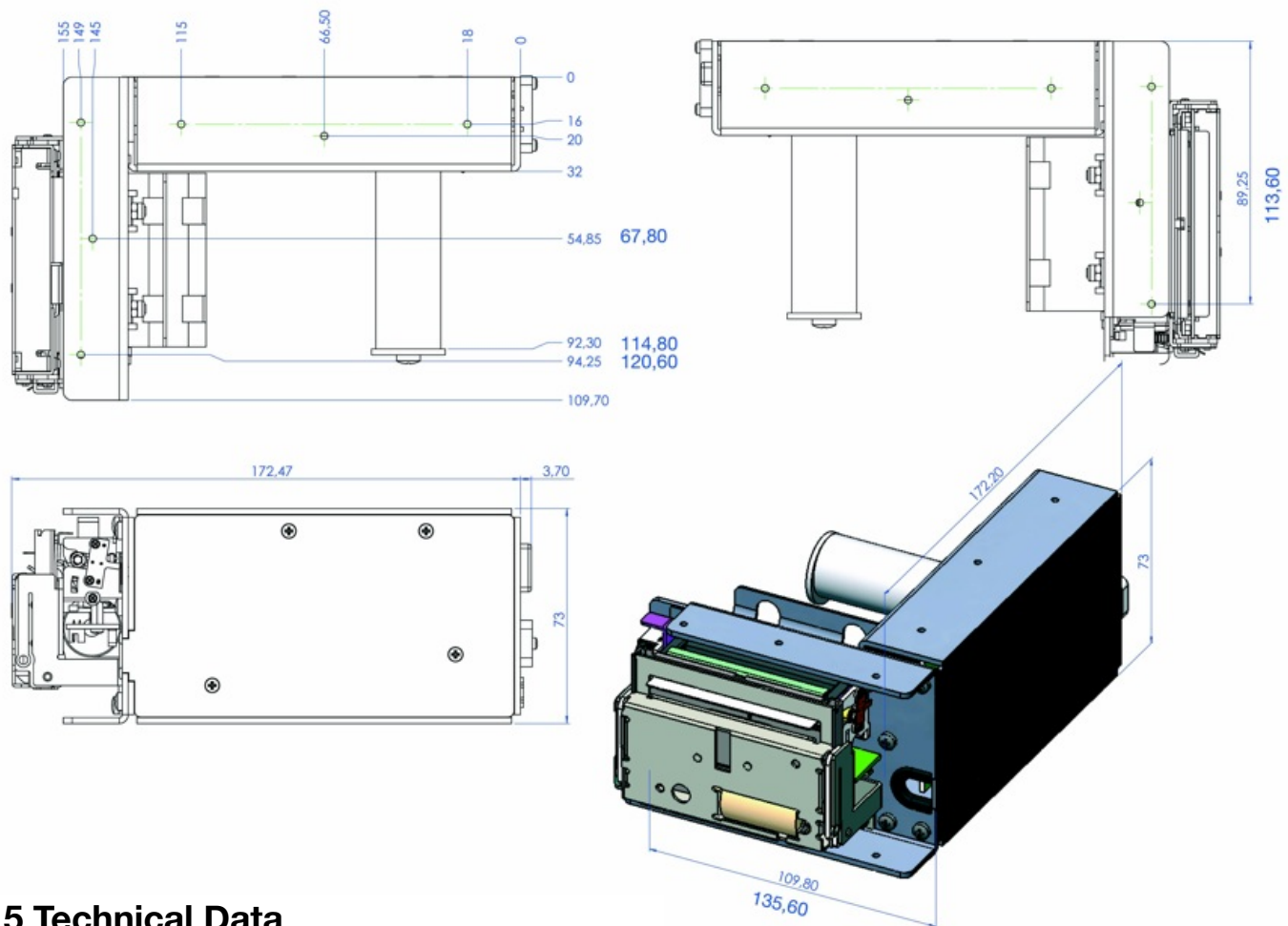
At this address, you can also find a personal consultant you can turn to with your questions.

Or, contact the GeBE sales team via email: sales.ef@gebe.net

For orders you can use this fax number: +49 (0) 89/894141-33

13 Declaration of Conformity

14 Mechanical Dimensions



15 Technical Data

	GPT-6762	GPT-6763
Dots per mm	432	576 (640 optional)
Cutter	Full and partial cut (small connection remains)	
Printer Buffer	256	
Near-Paper-End Sensor	integrated	
Paper Exit Sensor	Optional, serial signal to host system	
Print Speed	up to 200 mm/s	
Paper / Print Width	60 / 54 mm	82 / 72 mm (82 / 80 mm optional)
Supply Voltage	24 V	
Max. Current Standby	80 mA	
Max. Printing Current app.	3 - 15 A, adjustable by command	
Interfaces	RS232 to 460kbps, USB	
Baud Rates (Standard: Bold)	1,200/2,400/4,800/9,600/19,200/38,400/57,600/ 115,200 (115, n, 8, 1) /230,400/460,800 Mode: selectable: 7, 8 data bits / 1 , 2 stop bit / none , odd, even parity Handshake: Hardware handshake and XON / XOFF	
Data Compression	Factor app. 3 :1 (for graphics commands); PC compatible; Windows driver	
Character Sets, CPL	27, 54	36, 72 (40, 80 optional)
Bar Code	Code39	
Environment	-10°C to +60°C with specified paper 10% to 80% relative humidity, no moisture condensation	
MTBF	100 km printed paper / 300,000 - 800,000 cuts depending on paper thickness	
Roll Diameter	max. 150 mm (larger on request)	
Paper Thickness	60 - 150 µm	
Housing	Stainless steel	
Standards	CE : See declaration of conformity	
Weight incl. Paper Roll	995 g	1100 g
Dimensions (LxHxB)	172.2 x 73 x 109.7 mm	172.2 x 73 x 135.6 mm