GPT-6772/6773

Thermal Printer for Front Panel or Paper Catch Solutions
RS232 or USB • 203 dpi
Text and graphics bar code
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

GeBE Contacts
Printers: GeBE Elektronik und Feinwerktechnik GmbH • Email: sales.ef@gebe.net • www.gebe.net
Keyboards: GeBE Computer & Peripherie GmbH • Email: sales@tastaturen.com • www.tastaturen.com
Internet Applications: www.gebe.net

GeBE Elektronik und Feinwerktechnik GmbH
Beethovenstr. 15 • 82110 Germering • Germany • www.gebe.net
Phone:++49 (0) 89/894141-0 • Fax:++49 (0) 89/8402168 • E-Mail: sales.ef@gebe.net

Contents

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** on 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

⚠️ **TIP**

• The device may only be opened or repaired by authorized personnel. Never open the device or carry out repairs yourself. Always contact an authorized technical service.
You can find all necessary service information 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.

⚠️ **ATTENTION**

• Please make sure that the power supply cable is run in such a way that nobody trips over it, 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".

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

For installation: Always disconnect system power supplies.

Only use manufacturer's parts and accessories.

We explicitly state that all product liability and gua-ratee 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

Small and Compact

The design of most kiosk terminals is continuously getting smaller. If the construction offers more horizontal than vertical space, the printer INFO Compact with variable paper holder may be the ideal solution. This solution has the roll holder installed behind the printer at about the same height on the left or right side. The paper is unwound and transported down from an axle into the printer mechanism. A fastener on the side prevents the paper roll from slipping off the axle. One printer version comes with a paper tray that is mounted below the printer and offset, therefore saving space on the inside of a cabinet, for example. The paper is unwound from the freely running paper roll in the tray and then pulled into the printer mechanism by the strong motor. An optionally available paper-end sensor reports the paper status.

Fast Printing

Various applications - especially in the public domain - require considerably faster data output. The new GeBE INFO compact printer for 2" and 3" paper width prints up to 200 mm per second, counteracting any impatient pulling on the paper by the user and therefore, avoiding costly damage of printer mechanism or cutter.

GeBE Controller

Controller GCT-6794/6795, developed by GeBE and controlling these fast printouts, has been combined with a robust printer mechanism to create a new product. The mechanics of this printer mechanism originates from the established industrial printer module family INFO from GeBE. In addition to its speed, this fast, compact INFO printer for the kiosk area stands out due to high reliability, its service and application friendlyness.

Extensive Layout Commands

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

Easy Customization through 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.
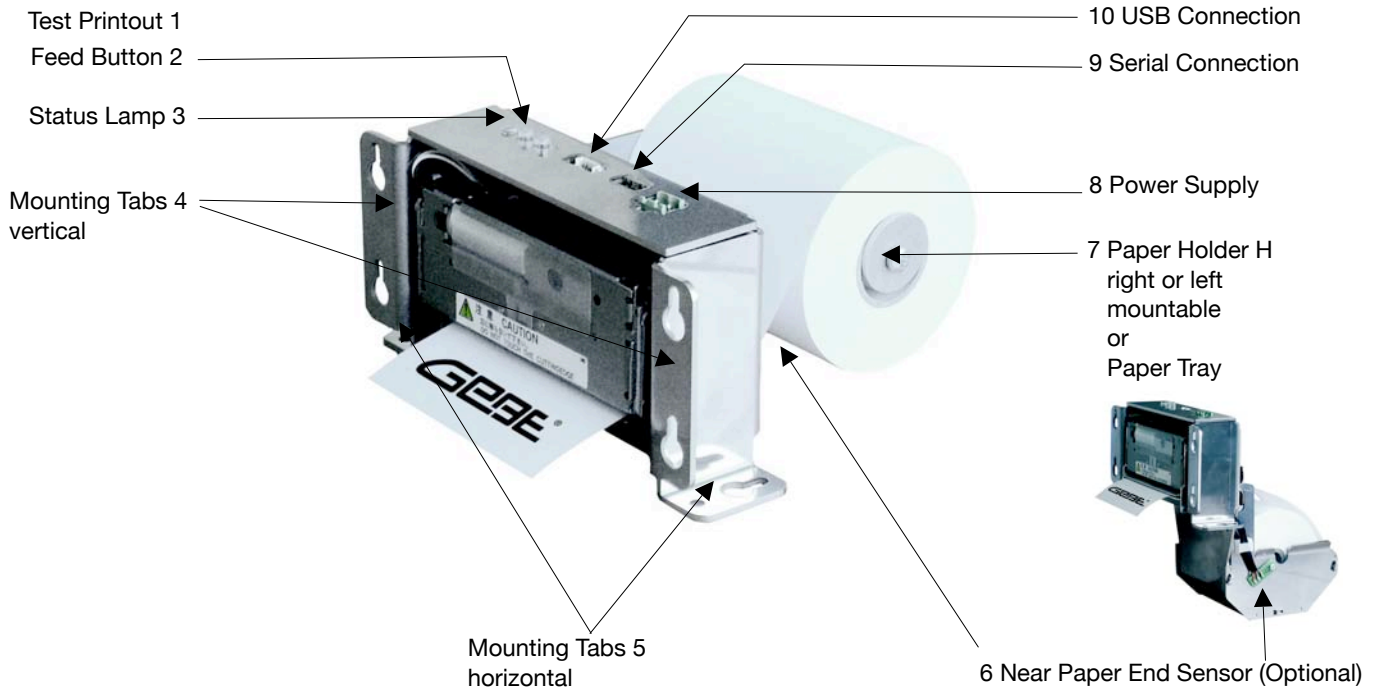
3 Layout and Functions

⚠️ **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 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".

Test Printout 1
Feed Button 2
Status Lamp 3
Mounting Tabs 4 vertical
Mounting Tabs 5 horizontal

10 USB Connection
9 Serial Connection
8 Power Supply
7 Paper Holder H right or left mountable or Paper Tray
6 Near Paper End Sensor (Optional)

11

Near Paper End Sensor (optional)

The optical sensor (6) will be screws sideways at the paper roll holder. Detectable distance to the paper roll is in a range of 0.5 to 1.0 mm.

The sensor is plugged on the board with a socket (11) JST-S03-B-XH-A.

Pin assignment:
1 black - 2 green - 3 red

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 thermal printers

in 2" or 3" width for OEM are supplied without accessories. Please order those separately.

An operating manual is included: SMAN-D-626 in German or SMAN-E-625 in English. All current documents are listed on the Internet at: www.oem-printer.com/compact.

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)
• power supply
• paper catch
• fastening screws

4.2.1 Standard Paper
  (A=outside coated WR=water resistent):
• 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-T01-082-070-025-080A/WR:
  50 pcs. thermal paper rolls w: 82 mm, th: 80 µm,
  diameter: 70 mm, core diameter: 25 mm, life: 7 years
• GPR-T01-080-080-025-060A:
  30 pcs. thermal paper rolls w: 80 mm, th: 60 µm,
  diameter: 80 mm, core diameter: 25 mm, life: 5 years

4.2.2 Cables
• GKA-245-1-500
  power supply, 2 single wires, 1.0 mm^2,
  500 mm, one end open, wire end sleeves
• GKA-406-2-1000
  round cable, 1,000 mm, 5pin to JST plug at
  controller, with 9 pin SUB-D socket to RS232
  interface at the host (PC)
• GKA-570-USB-FS-MOLEX-2,0 m
  cable USB to Molex, length 2.0 m, for full speed
  transmission
• GKA-322-1-190
  cable NPE, 3 pins plug to JST-S03-B-XH-A

⚠️ In order to ensure the CE standard, it is recommended to use a type 74271132 snap ferrite from Würth on the USB cable or equivalent filter elements. The component has to be placed as close as possible to the printer.

4.2.3 Power Supply
• GNG-24V-2.5A-AC-T:
  tabletop power supply 24 V / 2.5 A
• GNG-24V-6.5A-AC:
  open frame power supply 24 V / 6,5 A

⚠️ In order to ensure the CE standard, it is recommended to use a Meanwell power supply SP-500-24 or equivalent filter elements. The component has to be placed as close as possible to the printer.

4.3 Driver Software
Printer controller GCT-6794/6795 is supported by the following Windows® drivers:
Windows® CE.Net 4.2, 5.0, Windows® 2000, and XP.
The driver software can be downloaded from the Internet: www.oem-printer.com/info

4.4 Options
• paper removal sensor
• anti jam unit
• mini USB, small device socket for 24 V connection
• custom roll holder for paper rolls
  Ø > 80 mm
• power supply through miniature device connector
• near paper end sensor

5 Connecting the Printer

For installation:
Always disconnect system power supplies! ⚠️ Achtung !

5.1 Power Supply
The power supply (1) 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
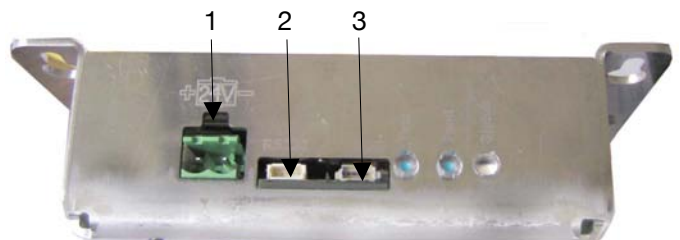
5.2 Serial Interface
The RS232 (2) is connected through a commercial Sub-D connector.
5 pin to JST connector at controller, with 9 pin SUB-D socket to RS232 interface at the host (PC).

5.3 USB Interface (3)
Cable USB to Molex, length 2.0 m, for full speed transmission.

5.4 Cable Diameter
0.5 mm^2 for cable length < 0,5 m
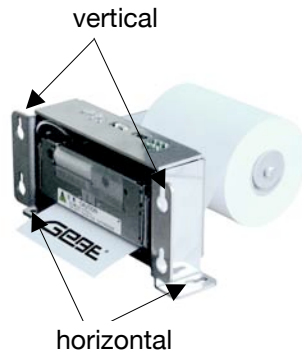0.8 mm^2 for cable length < 1.5 m
1.0 mm^2 for cable length < 2.0 m

6 Installation

6.1 Installation using mounting tabs M4

The GPT-6772/6773 can either be installed vertically with four mounting tabs, or horizonally with two. For a service-friendly disassembly, the printer can be taken off by pushing it up after untightening the srcews (M4) .

vertical

horizontal

6.2 Installation as a printer with paper catch

Select the mounting plane according to paper curvature and arrangement of the paper catch. The GPT-6772/6773 has 3 alternatives for storing the paper roll and positioning the mounting plane. The paper holder can be mounted left or right of the printer (see chapter 6.3). For saving space, e.g. on the inside of a cabinet, we ecommend using the paper tray that is installed underneath and offset to the printer.
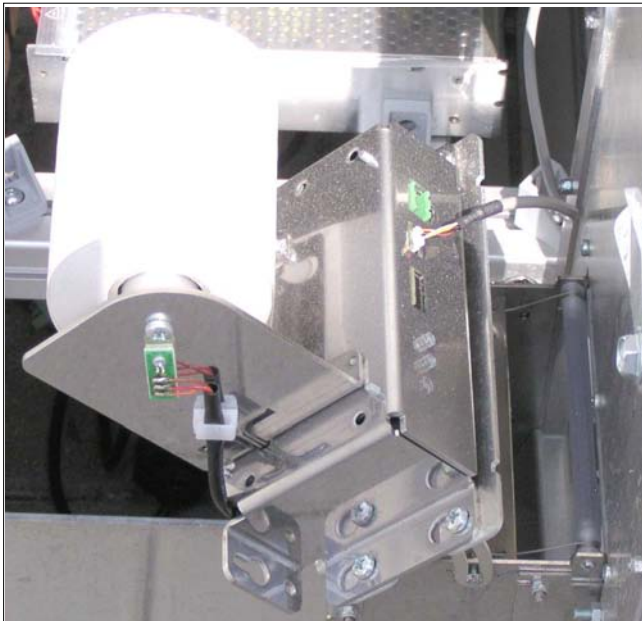
Important notes regarding paper catch solutions:

👍 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-condition of the device
- Use of top coat paper

6.3 Installation as front panel printer

The GPT-6772/6773 is installed with mounting tabs in accordance with the application.

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.

front plate

guide
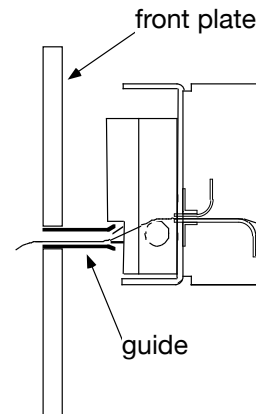
6.4 Moving the paper holder

The paper holder can be mounted left or right of the printer.

👍 With the optional near-paper-end sensor, the position of the paper holder has to be defined on the front end. Since the sensor connector is located at the right holder position, a longer cable and laying is required for an installation on the left side.

To move the paper holder:
1. Unplug near-paper-end sensor (optional) and demount from holder (1xM2).
2. Unscrew holder (3xM3).
3. Remove holder and demount axle (1xM4).
4. Reinstall holder on the opposite side (3xM3).
5. Mount axle on the opposite side (1xM4).
6. Screw near-paper-end sensor (optional) on the opposite side (1xM2) and plug it.

holder left side

holder right side
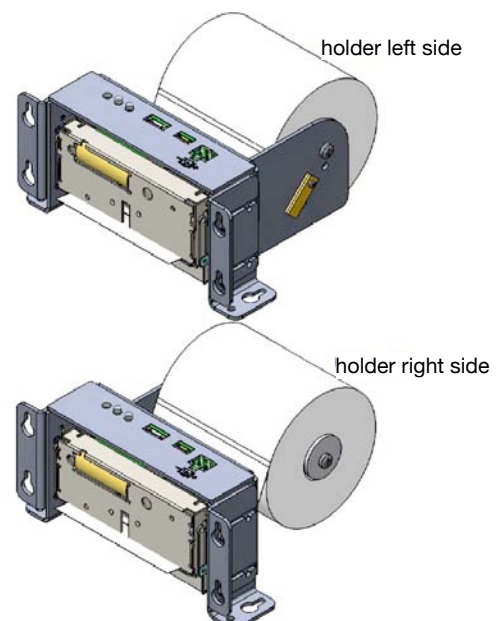
7 Status signals of the printer

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	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 sensor	closed	open
1	on	buffer status	buffer empty	buffer overflow
2	on	factory parameters	valid	invalid
3	on	AUX2 sensor	closed	open
4		unbused = 0		
5		unused = 0		
6		always 1 (difference to error byte 1)		
7		always 1.		

8 Serial Interface RS232 (V.24)

Connector SuB-D 9 pin socket with 1:1 assignment to the PC, so no 0-modem circuit necessary.

Pin	Signal	Input/Output	Comment
1	GND	-	Ground
2	TXD	I	Print data
3	RXD	0	Error signals and Xon/Xoff messages
4	RTS	I	Handshake input of the controllers
5	CTS	0	Controller handshake output

Attention : the standard configuration has 1 stopbit

Attention : the standard configuration has no paritybit

"1" (Mark)

"0" (Space)

Start LSB ... MSB Par Stop ... Start

Bit 0 1 2 3 4 5 6 7

1 Character: (1Start, 8 Data, 1 Parity, 1 Stop)
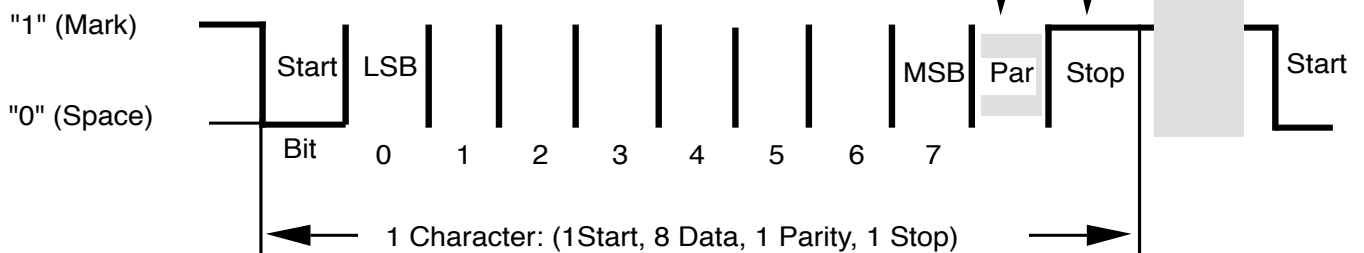
9 Interface USB

Connection through Molex on USB Type A

Pin	Signal	Input/Output	Comment
1	Vcc	-	
2	GND	-	
3	D-	I/0	
4	D+	I/0	
5	GND	-	

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 active	25 mA
	USB suspend / printer sleep	300 µA

⚠ *Achtung !* 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.

Option 1: USB1 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.

10 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?
The inside of the paper roll is often the printable side. The thermal paper of the Compact printer is outside coated. In case of doubts, 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.
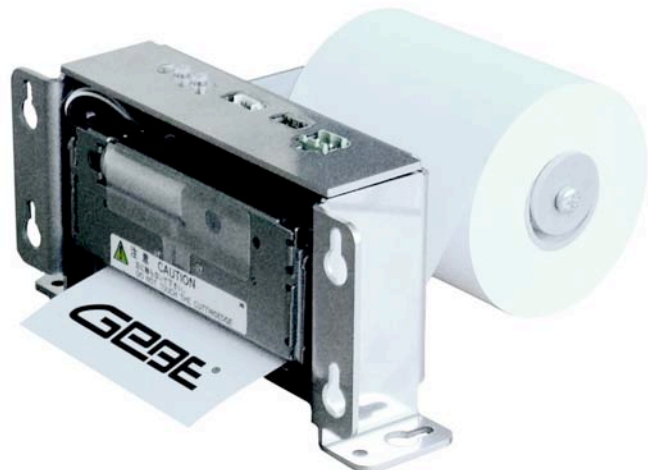
11 Character Sets

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

Font Sizes

The number of printable characters per line depends on the physical features of the printer used. Below are 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

12 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 barch file.

Symptom	Possible Cause	Remedy
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 printer only prints a few dots in one line.	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.
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 that causes 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 erros. GeBE can adjust this.

13 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 occuring 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
Beethovenstr. 15 • 82110 Germering • Germany • www.gebe.net
Phone:++49 (0) 89/894141-0 • Fax:++49 (0) 89/8402168 • Email: sales.ef@gebe.net

Further Information

Further information on the INFO printer series is available at www.oem-printer.com/compact.
At this address, you can also find a personal consultant you can turn to with your questions.
Or, simply send an email to the GeBE sales team: sales.ef@gebe.net
For orders you can use this fax number: +49 (0) 89/894141-33

14 Declaration of Conformity

DECLARATION OF COMFORMITY
in compliance with EN45014

KONFORMITÄTSERKLÄRUNG
in Übereinstimmung mit EN45014

Supplier: Anbieter:	**GeBE Elektronik und Feinwerktechnik GmbH**
Address: Anschrift:	**Beethovenstr.15** **82110 Germering** **Germany**
Products: Produkte:	begining with Serial Number: **1001xxxx** beginnend mit Seriennummer: **1001xxxx**

GPT-6772-95-USB

GPT-6772-95-V.24

GPT-6773-94-USB

GPT-6773-94-V.24

The Products described above are in conformity with:

Die oben beschriebenen Produkte sind konform mit:

EMC Directive / EMV Richtlinie **89/336/EWG**

Information technology equipment
Einrichtungen der Informationstechnik
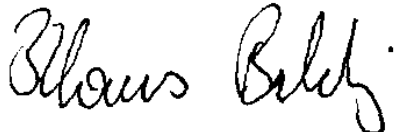
Radio disturbance characteristics ....EN 55022 1998
Funkstöreigenschaften

Immunity characteristics...EN 55024 2003
Störfestigkeitseigenschaften

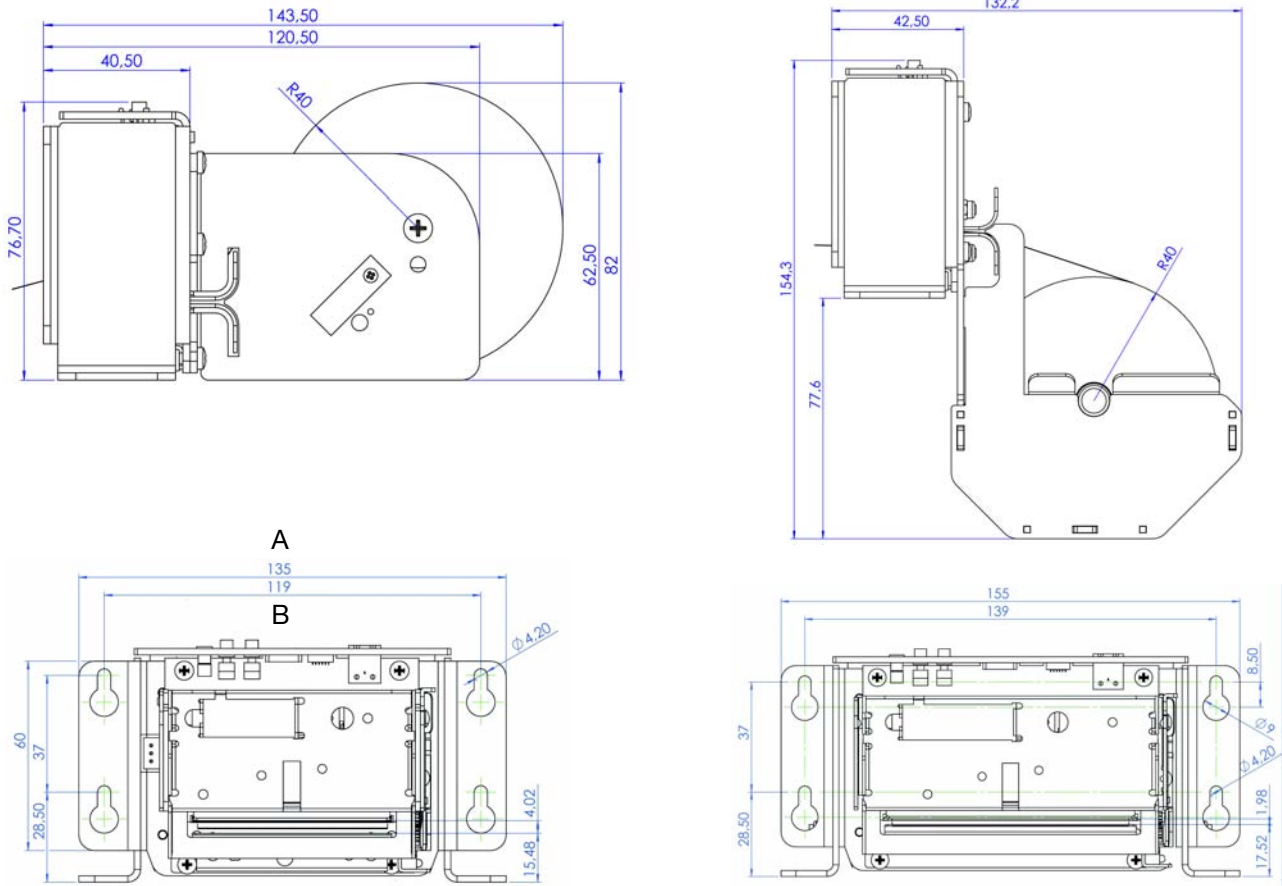Germering, the 5/25/2010, den 25.05.2010

Klaus Baldig
Head of R&D/ Leiter der Entwicklung

GeBE Elektronik und Feinwerktechnik GmbH   GKV 027-1

⚠ In order to ensure the CE standard, it is recommended to use a type 74271132 snap ferrite from Würth on the USB cable plus a Meanwell power supply SP-500-24 or equivalent filter elements. Both components are to be placed as close as possible to the printer.

15 Mechanical Dimensions

16 Technical Data

	GPT-6772	GPT-6773
Dots per mm	432	576 (640 optional)
Cutter	Full and partial cut (small connection remains)	
Printer Buffer	256	
Near-Paper-End Sensor	Serial signal to host system	
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
Bar Code	Code 39	
Environment	-10°C to +60°C with specified paper 10% to 80% relative humidity, no moisture condensation	
MTBF	100 km printed paper / 500,000 cuts	
Roll Diameter	max. 80 mm with integrated paper holder (on request up to 300 mm)	
Paper Thickness	60 - 150 µm	
Housing	Stainless steel	
Standards	CE : See declaration of conformity	
Weight incl. Paper Roll	500g	650g
Dimensions without Holder	135 x 76.7 x 40.5 mm	155 x 76.7 x 42.5 mm