Operating Manual

INPUT/OUTPUT DEVICES

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Thermal Printer

GeBE-MULDE Maxi

GPT-4454

OPERATING MANUAL

C32

4“ front panel thermal printer

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1 SAFETY INSTRUCTIONS

1.1 SYMBOLS AND THEIR MEANING

Carefully read the safety instructions!

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.

It is essential to forward these instructions to all other personnel using this device.

ATTENTION
concerns your personal safety and must be observed at all times.

CAUTION hot surfaces
concerns your personal safety and signals a risk of being burned on touch.

HINT
concerns equipment safety and will help you to utilize your printer to its fullest.

SUPPORT
For technical questions, please contact GeBE-Technical Support.

TECHNICS
requires consultation with GeBE-Technical Support.

INFORMATION
refers to more detailed or additional information, such as documents or internet links.

1.2 DEVICE INFORMATION

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 to 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.

In case of any further questions, please contact our personnel, see chapter 8.4 GeBE-TECHNICAL SUPPORT, page 19.

Safe operation of this device is only warranteed, if the instructions in this operating manual have been complied with. For installation: Always turn off the device and disconnect it from power supplies.

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.

Disconnect your device immediately from the mains and power supply, when such a failure occurs, and contact GeBE customer service. See chapter 8.4 GeBE-TECHNICAL SUPPORT, page 19.

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.

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.

- The device may only be opened or repaired by authorized personnel. Never open the device or carry out repairs yourself.

  Always contact the GeBE customer service. See chapter 8.4 GeBE-TECHNICAL SUPPORT, page 19.

- 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 12 TECHNICAL DATA, page 23.
- Peripheral devices that are connected to the interfaces and the DC circuits of this device have to meet the requirements (SELV) for low safety voltage (limited power) in accordance with EN/IEC 60950.
- Assure, that the printer is protected against overpower according to EN/IDC 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.
- 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 and will make all warranty claims null and void. All supplied parts and original accessories/spare parts are listed in chapter 4.3 ACCESSORIES AND SPARE PARTS, page 10.

1.3 WARRANTY

We guarantee that all goods supplied by GeBE possess the warranted features according to the intended use. 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.

1.4 DISCLAIMER OF LIABILITY

We explicitly state that all product liability and guarantee claims are null and void:

1. if the device has not been used in accordance with the instructions in this operating manual or hints on the device itself.
2. if the device has been used outside the intended use, see chapter 1.5 INTENDED USE, page 5 and chapter 1.6 NON-INTENDED USE, page 5.
3. if the device has been used outside the specifications according to CE declaration.
4. 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.gebe.net (footer: AGB).
5. when opening or operating the device in a state of error.
6. for attempts by the customer to repair the device.
7. for usage/installation of parts and accessories others than the manufacturer's original.
8. for damages due to ESD or EOS.
9. for damages due to printing on the wrong paper (side).
10. for damages through overloading and foreign influence.
11. for normal wear and tear.
12. for visual defects.
13. for damages through force majeure of any kind.

1.5 INTENDED USE

- Protocol printing, e.g. in machines, for technical measurement purposes or documentation
- Receipt printing, e.g. at POS or for accounting systems in gastronomy

1.6 NON-INTENDED USE

- Usage/installation of parts and accessories others than the manufacturer's original's.
- Usage of the printer in non-compliance to this manual.
- Changes/modifications not approved by GeBE could void the user's authority to operate the equipment.
- Not complying to the safety instructions.
- Usage of the printer outside the intended use, see chapter 1.5 INTENDED USE, page 5.

2 SYSTEM DESCRIPTION

CONFIGURATION

The front panel thermal printer GeBE-MULDE Maxi GPT-4454 adapts to diverse preconditions and integration situations. The GPT-4454 is compatible to PCL3 graphics.

ASSEMBLY

The fiberglass reinforced plastic housing supports stationary installation for industrial usage. The GPT-4454 is a true space-saving alternative to A4 printer systems.

CUSTOMIZING

The operation foil can be designed customer-specific.

PAPER

Easy Paper Loading technology allows fast and simple paper exchange. The paper tray closes vibration-secure. The paper roll of ø 60 mm (2.36 inch) stores approximately 25 m (27.34 yd) paper length. The GeBE-MULDE Maxi also prints on self-adhesive labels.

TEMPERATURE RANGE

With specified paper, the printer can be used in a temperature range of -20°C to +60°C (-4°F to 140°F), also suitable for outdoor application.

BARCODE

Barcode support for Code39, 2of5interleaved, EAN8/EAN13, UPCA, Code128 and QR Code.

INTERFACES

GeBE-MULDE Maxi can be addressed via an USB and a RS232 interface.

3 LAYOUT AND FUNCTIONS

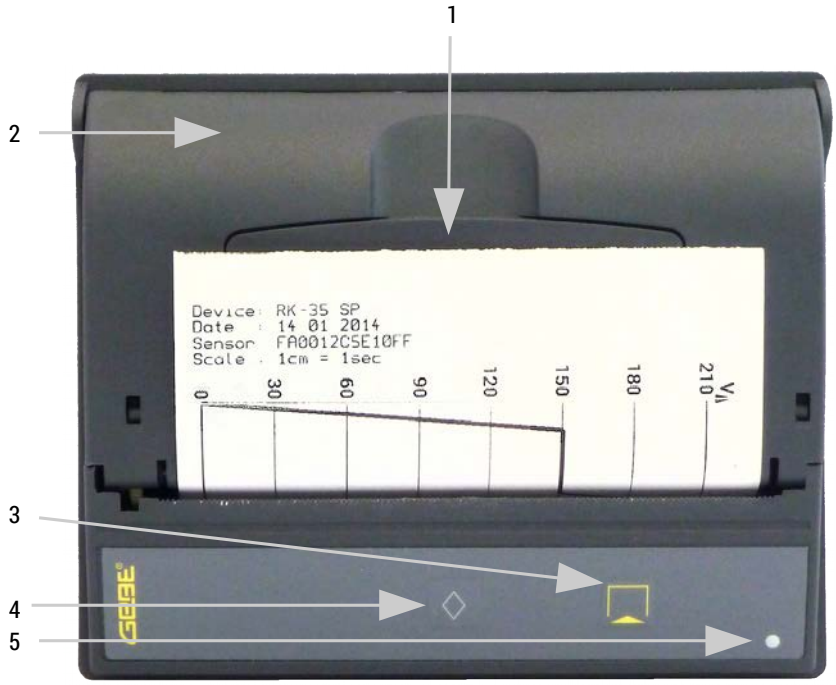


Figure 1: GeBE-MULDE Maxi GPT-4454 parts and functions

Designation	
1	Lever for paper tray
2	Paper tray
3	Button FEED
4	Button TEST (free programmable)
5	LED green

3.1 BUTTON FUNCTIONS

The buttons may have different functions depending on the status. The time for which the buttons are held down is also an issue.

A detailed description is available in our software manual SoMAN-C32-0793.

FEED BUTTON

The FEED button (3/figure 1) serves to feed the paper forwards. When pressing the FEED button, the paper feeds first only one line of the set font. When holding the FEED button down for more than two seconds, the paper feeds continuously.

SELF TEST

By starting a self test printout, the printer functions can be tested. For this purpose, the FEED button (3/figure 1) has to be pressed down when connecting the power supply. The interfaces are not tested. Software version and character set are printed out. For OEM, special printouts can be activated during the self test.

TEST BUTTON

The TEST button (4/figure 1) performs a printout of the character font and the software version.
A makro can be programmed for this button (makro -> batch file T1).

3.2 CONNECTION

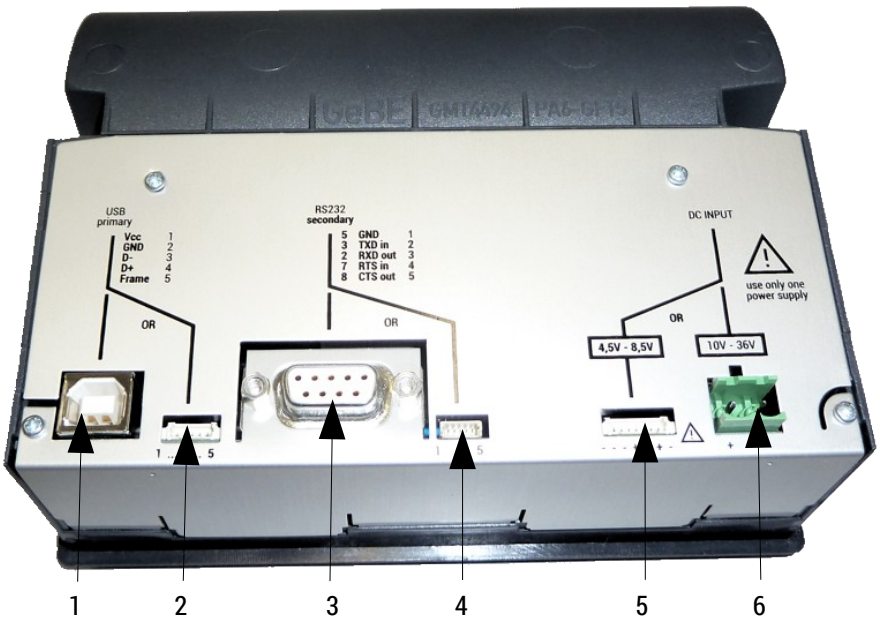


Figure 2: GeBE-MULDE Maxi backside – connections (photo including optional PCB metal cover)

Overview connections

No.	Designation	GCT-44621
1	USB	J5
2	USB	J6
3	RS232	J8
4	RS232	J7
5	Power supply: 4.5–8.5 VDC	J2
6	Power supply: 10–36 VDC	J1

3.3 STATUS MESSAGES

The integrated STATUS LED (5/figure 1) indicates two printer states:

- LED permanently on: paper available and all functions are in order
- LED flashing: no paper available case of error

A list of statusbytes is available in the software manual SoMAN-C32-E-0793.

3.4 CHARACTER SETS

Character sets are stored in the flash memory of the controller. Other character sets are available on request.

Standard character sets ar listed in the software manual SoMAN-C32-E-0793.

3.5 OEM OPTIONS

- customized housing colour
- customized operation foil
- program variants
- special fonts
- special functions

The setup settings, such as density, text size, etc. can be set up by the user himself and stored user-specifically in the EEPROM.

A detailed description of the setup settings is available in the software manual SoMAN-C32-E-0793.

On request, command and character set adjustments are also made ex factory. Contact the GeBE customer service, see chapter 8.4 GeBE-TECHNICAL SUPPORT, page 19.

3.6 CONTROLLER AND DRIVERS

Following drivers support the printer controller GCT-44621:

- Windows® XP, 7, 8, 8.1, 10
- Windows® CE 5.0, 6.0, 7.0
- Unix via Cups for Linux and Mac OS
- Other systems on request

4 DELIVERY CONTENT

4.1 UNPACKING

Please check during the unpacking process, if all parts have been delivered completely and undamaged.
Make sure to remove all parts from the packaging. 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.

4.2 STANDARD LAYOUT

The standard OEM-printers of series GeBE-MULDE Maxi do not include any accessories!
Please order accessories separately according to the table in chapter 4.3 ACCESSORIES AND SPARE PARTS.

Article designation: GPT-4454-C32-621-USB/V.24-LV-DC10/36

4.3 ACCESSORIES AND SPARE PARTS

4.3.1 ACCESSORIES DELIVERY CONTENT

The standard version does not include any accessories!

4.3.2 OPTIONAL ACCESSORIES AND SPARE PARTS

Article number	Article description
Cable	
12872	Data round cable cable USB 2.0, 5 pin, Molex to USB A, length 2,000 mm (78.74 inch)
12538	Data round cable cable USB 2.0, USB B to USB A, length 1,800 mm (70.87 inch)
11352	Data round cable cable RS232, 5 pin, JST SHR to Sub-D, length 1,000 mm (39.37 inch)
11387	Data cable RS232, 5 pin, JST SHR - one side open, length 500 mm (19.69 inch)
10589	Data round cable cable RS232, 9 pin, 1:1 extension Sub-D9 to Sub-D9, length 2,000 mm (78.74 inch)
12082	Power supply, 7 pin, Molex - one side open, length 250 mm (9.84 inch)
10258	Power supply cable for 10 – 36 VDC, 2 single wires 1.0 qmm with end splice, one side open, length 500 mm (19.69 inch)
Power supply	
13695	Power supply 24VDC / 3A with Schuko plug and power supply cable
13696	Power supply 5VDC / 5A with Schuko plug and power supply cable
Spare parts	
12773	Cover and lever, anthracite
11913	Exchange printer mechanism including platen
13020	Exchange platen

Article number	Article description
Options	
13234	Mounting frame in DIN housing incl. fastening screws
12363	Mounting frame in 3HE 19“ rack incl. fastening screws
13815	PCB metal cover with connection marking
Paper	
12028	7 years paper • roll max. ø 60 mm (2.36 inch) • core inside ø 25 mm (0.98 inch) • width: 113.5 ±0.5 mm (4.47 ±0.02 inch) • paper thickness: approx. 80 µm (3.15 mil) • outside coated • running length: approx. 25 m (27.34 yd)
12988	10 years paper • roll max. ø 60 mm (2.36 inch) • core inside ø 25 mm (0.98 inch) • width: 113.5 ±0.5 mm (4.47 ±0.02 inch) • paper thickness: approx. 80 µm (3.15 mil) • outside coated • running length: approx. 22 m (24.06 yd)
12346	12 years single labels • roll max. ø 60 mm (2.32 inch) • core inside ø 25 mm (0.98 inch) • width: 113.5 ±0.5 mm (4.47 ±0.02 inch) • paper thickness: approx. 120 µm (4.72 mil) • outside coated • size: 109.5x76.2 ±0.5 mm (4.31x3.00 ±0.02 inch) • approx. 210 labels
Customising	
12173	Customer specific foil
13669	Housing in special colour RAL

5 INSTALLATION

5.1 INSTALLATION IN A FRONT PANEL

The printer GPT-4454 can be installed with two screws in an easy-to make front panel cut-out with a thickness of up to 4 mm. The contact surface is flat. A 1 mm broad collar covers the gap between the housing wall and the printer. The printer is pushed into the cut-out from the outside. Then, it can easily be mounted with screws 2xM3 to the drill holes M3.

Pay attention to the tightening torque to prevent damage of the mounting holes or poor holding power.

Figure 3 : Front panel installation frame for GPT-4454

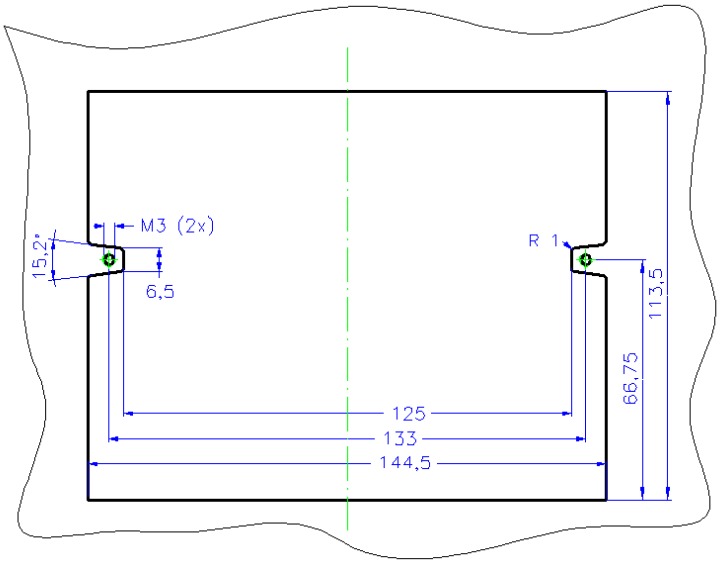


Figure 4: Dimensions for front panel installation of GPT-4454 in mm

5.2 INSTALLATION IN DIN HOUSING

The GPT-4454 can be integrated in a DIN housing.

For suitable DIN-housings contact our sales team, see chapter 8.4 GeBE-TECHNICAL SUPPORT, page 19.

Figure 5: GPT-4454 installed in a DIN housing with optional plastic protection front door

6 POWER SUPPLY

During installation: Always disconnect system power supplies.
During installation and operation, the user (commissioning engineer) must comply with the regulations according to the regulations. IEC 60950-1: Protection against contact with parts of hazardous voltage and compliance with insulation requirements.

6.1 FIXED VOLTAGE POWER SUPPLY

The printer can be operated with a fixed voltage power supply of 10-36 VDC or 4.5-8.5 VDC.

Important: Power can only be supplied either through connection J1 or J2.

The connected power supply has to be protected against overvoltage in accordance with EN/IEC 60950. Suitable power supplies for these variants 4.5-8.5 VDC or 10-36 VDC are available from GeBE, see chapter 4.3 ACCESSORIES AND SPARE PARTS, page 10.

It is recommended to select the cable length as short as possible. Long cable lengths lead to high resistance that results in a poor print image up to failure of the printer.

6.1.1 FIXED VOLTAGE OPERATION 10-36 VDC

The printer GPT-4454-DC10/36 contains an integrated DC/DC converter with an input voltage range of 10-36 VDC. Die DC/DC supply can be connected via the 2-pin clamp J1 6/figure 2 (see chapter 3.2 CONNECTION, page 8).

Connection J1 - GCT-44621

Pin	Function
1	GND
2	VP

Socket:	Phoenix MSTB 2,5/2-G-5,08	J1
Mating connector:	Single wires	AWG 24 - 14

Suitable connection cable: please refer to chapter 4.3 ACCESSORIES AND SPARE PARTS, page 10.

6.1.2 FIXED VOLTAGE OPERATION 4.5-8.5 VDC

The printer GPT-4454-LV can be operated with an input voltage range of 4.5-8.5 VDC. The power supply is connected to the 7-pin socket J2 5/figure 2 (see chapter 3.2 CONNECTION, page 8) with pin 7 to GND.

Connection J2 - GCT-44621

Pin	Function	Colour
1	GND	black
2	GND	black
3	GND	black
4	VP	red
5	VP	red
6	VP	red
7	DC/DC disable	white

Socket:	Molex 53261-0771	J2
Mating connector:	Molex 51021-0700	AWG 30 - 26

Suitable connection cable: please refer to chapter 4.3 ACCESSORIES AND SPARE PARTS, page 10.

7 INTERFACES

The controller GCT-44621 contains an USB full speed interface and a serial RS232 interface.

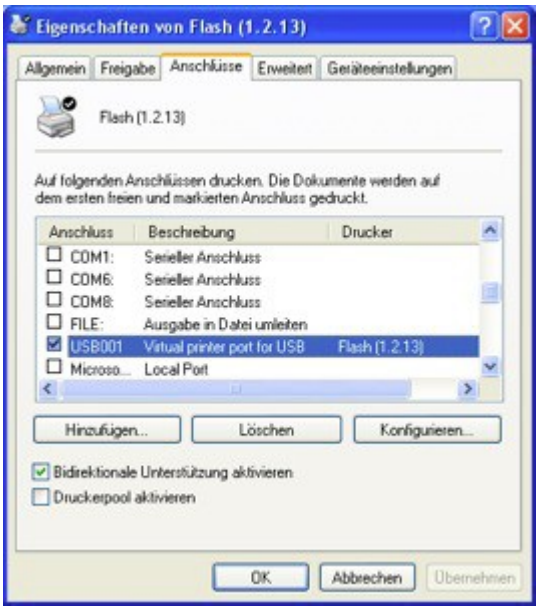
Avoid connecting cables when the power supply is switched on. If this is not possible, make sure that the USB interface is always connected after the power supply has been plugged in.

Detailed controller information is available from the hardware description HaMAN-E-0953.

7.1 USB INTERFACE

The suitable interface cable has to be connected either to the USB socket J5 (1/figure 2) or to the socket J6 (2/figure 2) and on the other side directly to an USB connection (COM port of a PC).

The USB device class is consistent with the "Printer Class". After the PC is plugged in, it reports "USB printer support" and installs an "USB00x" USB port. During the installation of the printer driver, it has to be allocated to the USB port.



Connection J5 - GCT-44621

Socket:	USB type B
Mating connector:	USB type B

Connection J6 - GCT-44621

Pin	Function	Dir
1	USB-Power	-
2	GND	-
3	USB D-	I/O
4	USB D+	I/O
5	Frame	

Socket:	Molex 53261-0571	J6
Mating connector:	Molex 51021-0500	AWG 30 - 26

USB specification	V1.1 (USB 2.0 and USB 3.0 compatible)
Device type	Vendor Specific Device or Printer Class
USB	Full Speed 12 Mbit/s

7.2 SERIAL INTERFACE

The suitable interface cable has be connected either to socket J7 (4/figure 2) or via the SUB-D socket J8 (3/figure 2) and on the other side directly to a RS232 connection (COM interface of a PC).
Alternatively also a one-side open cable with 5 single wires is available (see chapter 4.3.2 OPTIONAL ACCESSORIES AND SPARE PARTS, page 10).

Only peripherals that meet the requirements for safety low-voltage (SELV) with limited power according to EN/IEC 60950 may be connected to the interfaces and DC circuits of the printer.

7.2.1 PIN ASSIGNMENT

Connection J7 - GCT-44621

Pin	Signal	Input/Output
1	GND	-
2	TxD	I
3	RxD	O
4	RTS	I
5	CTS	O

Socket:	JST SM05B-SRSS-TB	J7
Mating connector:	JST SHR-05V-S	AWG 32 - 28

Connection J8 - GCT-44621

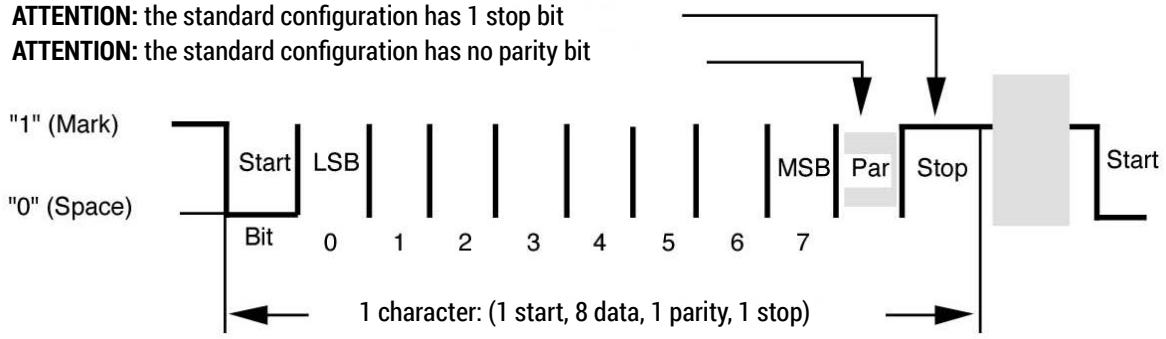
Pin	Signal	Input/Output
1	n.c.	-
2	RxD	O
3	TxD	I
4	n.c.	-
5	GND	-
6	DSR	0
7	RTS	I
8	CTS	O
9	n.c.	-

Socket:	SUB-D	J8
Mating connector:	SUB-D	

7.2.2 TIMING OF SERIAL INTERFACE RS232

Default time refers to the graphics:

ATTENTION: the standard configuration has 1 stop bit
ATTENTION: the standard configuration has no parity bit



Signal	Level on TTL interface	Level on V.24 (RS232) interface
"1" (Mark)	+ 5 V (TTL-level)	-3 V ... -12 V
"0" (Space)	0 V (TTL-level)	+3 V ... +12 V

8 MAINTENANCE/SERVICE

The closed printer is protected against static discharges in accordance with the EMC guidelines. Since the user may come in contact with parts that are electrically sensitive, when the printer is open (like the print head during cleaning or the electronics), the user must assure that all possible static charges are discharged through sufficient grounding before touching the printer (e.g. by touching grounded objects like radiators), in order to safely avoid damage to the printer.

8.1 INSERT PAPER

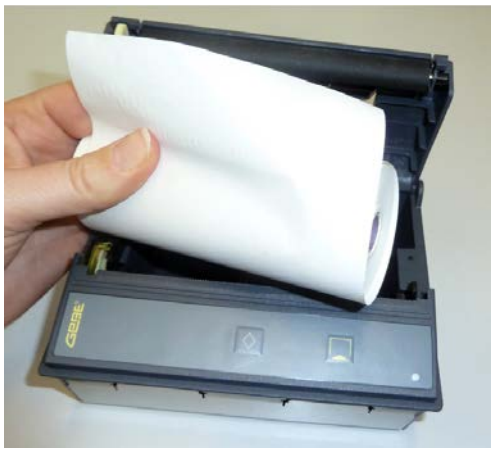
Which side of the thermal paper can be printed on? On the paper roll, the printable side is the outside in almost all cases.

Insert the paper:

1. Open the paper tray by slightly pulling the lever upwards. The paper tray can now easily be opened.

1

2



2. Unwind a few cm (inch) of paper from the roll. Keep the layers wound tightly when inserting the paper roll into the paper tray. The paper outside shows towards the printer mechanism.

3

3. Close the paper tray by applying strong pressure. You can hear it snap shut. Now the paper can be torn off at the tear-off edge without opening the paper tray again nor the paper sliding through the printer mechanism.

(photos including optional PCB metal cover)

8.1.1 SUITABLE PAPER

Which thermal paper is suitable?
GeBE offers the suitable paper, see 4.3.2 OPTIONAL ACCESSORIES AND SPARE PARTS, page 10.

Other paper types may cause disturbances.

For further informationen please refer to our paper specification TI-DE-0606.

Further GeBE paper types:

Label paper
are connected by a perforation. Between the labels, there is a mark for correct positioning. Only these type of labels can be printed.

8.2 CLEANING

After larger print jobs, depending on the paper quality and adverse environmental conditions, it may be necessary to clean print head, platen roll and sensor.
Especially, when the print is no longer properly performed.

Never use sharp opjects for cleaning. This may damage the print head.

CLEANING PROCESS:

1. Open the paper tray and remove the paper roll, see chapter 8.1 INSERT PAPER, page 17.

Do not touch the print head as it may be damaged by static electricity.

2. Loosen dirt particles at paper, sensor and tear bar with a small brush.

3. Forcefully blow into the paper tray in order to remove the coarse dust.

In principle the printer must be kept dust-free.

4. Soak Q-tip with isopropanol (IPA) and clean the sensor, platen roll and print head rail, as well as further dirt. Alternatively use a head cleaning pin or cleaning card.

print head rail

platen roll

sensor

5. Other strong contaminations may also be removed with a Q-tip soaked with isopropanol (IPA).

8.3 DOCUMENTS OF GPT-4454

All further documents are listed on the Internet www.gebe.net, which you can also request directly from GeBE by email (info@gebe.net).

The software manual SoMAN-C32-E-0793 or SoMAN-C32-D-0792 (German) may directly be requested from GeBE via email (info@gebe.net).

8.4 GeBE-TECHNICAL SUPPORT

In case of service, please contact:
GeBE Elektronik und Feinwerktechnik GmbH
Beethovenstr. 15
82110 Germering /Germany

Tel: +49 (0)89/89 41 41-0
Fax: +49 (0)89/89 41 41-33

In case of questions, please find your personal contact person under www.gebe.net or send an email to info@gebe.net.

9 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 assist you:
Test printout: Keep FEED button pressed down while switching on the printer.

SYMPTOM	POSSIBLE CAUSE	REMEDY
Paper		
The printer seems to print, paper is feeded forwards but it is not blackened.	**Paper:** wrong side towards the print head. Only the thermosensitive side can be printed on.	Insert paper correctly: Mostly the paper outside of the roll is the thermosensitive side. You can test this with the fingernail-test: Drag the tip of a finger nail across the paper, pressing down. The friction heat causes the thermosensitive side to blacken.
	Paper is too humid.	Only use dry paper.
Power supply		
The LED only extinguishes briefly during print start. The printer only prints a few characters in one line. Paper feed works, but the self test does not work. The printer only prints a few characters in one line. If more is entered, printing stops totally.	The power supply is not optimal. **External power supply:** The power lead cable diameter of the external power supply is too thin. Power output of the external power supply is too low.	**External power supply:** Use short power supply lead cables in the right diameter dimensions. Test the contact resistance of all plug connections. Thermal printers often have peak currents, which creates incorrect voltage decline at little contact resistances. (No power supply will be strong enough for those cases.)
Serial interface		
After a few characters, the printout starts to be incomplete.	The printer buffer is "over-run", causing a loss of data. The print data transmitter shows no reaction to handshake.	Use or check handshake. (Software: Xon/Xoff or hardware: CTS). If necessary: slow-down transmission speed.
The printer prints wrong characters.	**Interface problem:** The transmission is faulty. (Characters of the upper area are printed).	Use correct interface level (RS232). Transmisson cable may be too long.
	External power supply: Bad ground connection causes that part of the printing current flows through the interface cable. This increases the potential, which results in data corruption.	Check and improve ground connection. Feed current through short and thick power lead lines.
USB interface		
The printout breaks off after a short period of time or is continuously repeated.	COM port settings are incorrect or an action is enabled on the „Job end“ of the Windows® driver.	Set virtual COM port according to installation instructions. Disable the „Job end“ action of the Windows® driver.

10 CE CERTIFICATE

The test setup includes the open frame power supply S-150-24 from MEAN WELL, article no.: 13694.

To ensure the CE standard, a snap ferrite (74272733, Würth) must be placed near the printer, both on the USB cable and on the power cable along with the RS232 cable.

EU Konformitätserklärung / EU Declaration of Conformity

www.gebe.net | Thermal Printer

1. **Gerätetyp/Produkt** *(Apparatus model/Product):* Drucker *(Printer)*
2. **Name und Anschrift des Herstellers:** *(Name and address of the manufacturer)* GeBE Elektronik und Feinwerktechnik GmbH, Beethovenstr. 15, 82110 Germering, Germany
3. **Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.** *(This declaration of conformity is issued under the sole responsibility of the manufacturer.)*
4. **Gegenstand der Erklärung:** *(Object of the declaration)* beginnend mit Seriennummer *(begining with serial number)*: 1712xxxx
   GPT-4454-C32-621-USB/V.24-LV-DC10/36
   GPT-4444-C32-621-USB/V.24-LV-DC10/36
5. **Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union.** *(The object of the declaration described above is in conformity with the relevant Union harmonisation legislation.)*

   RICHTLINIE 2014/30/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26.2.2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit.
   (DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.)

   EMVG: 14. Dezember 2016 *(EMC Law: December 14, 2016)* — **Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln** *(Law on the electromagnetic compatibility of equipment)*
6. **Angabe der einschlägigen harmonisierten Normen**, die zugrunde gelegt wurden, einschließlich des Datums der Norm oder Angabe anderer technischer Spezifikationen, für die die Konformität erklärt wird, einschließlich des Datums der Spezifikation: *(References to the relevant harmonised standards used, including the date of the standard or references to the other technical specifications, including the date of the specification, in relation to which conformity is declared:)*

   DIN EN 55022; VDE 0878-22:2011-12 Class A
   EN 55022:2010 Deutsche Fassung *(German edition)*
   Einrichtung der Informationstechnik *(Information technology equipment)*
   – Funkstöreigenschaften *(Radio disturbance characteristics)*
   – Grenzwerte und Messverfahren *(Limits and methods of measurement)*
   CISPR 22:2008, modifiziert *(modified)*

   DIN EN 55024; VDE 0878-24:2016-05
   EN 55024:2010+A1:2015 Deutsche Fassung *(German edition)*
   Einrichtung der Informationstechnik *(Information technology equipment)*
   – Störfestigkeitseigenschaften *(Immunity characteristics)*
   – Grenzwerte und Messverfahren *(Limits and methods of measurement)*
   (CISPR 24:2010+Cor.:2011+A1:2015)
7. **Nicht zutreffend** *(Not applicable)*: ---
8. **Gültigkeit** *(Validity)*: Beginn *(Start)*: – mit Datum der Ausstellung *(with the date of issue)*
   Ende *(End)*: – mit Freigabe einer neuen Version *(release of a new version)*
   – bei Änderung des Gegenstandes (Punkt 4) ohne Zustimmung des Herstellers (Punkt 2) *(at any change of the object (item 4) without agreement of the manufacuter (item 2))*

Unterzeichnet für und im Namen von: *(Signed for and on behalf of:)* GeBE Elektronik und Feinwerktechnik GmbH, Beethovenstr. 15, 82110 Germering, Germany
Ort und Datum der Ausstellung: *(Place and date of issue:)* Germering, 09.07.2018
Name und Funktion *(Signed for and on behalf of)*:

ppa. Klaus Baldig

ppa. Klaus Baldig / Entwicklungsleiter *(head of R&D)*

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date July 9, 2018
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11 DIMENSIONS

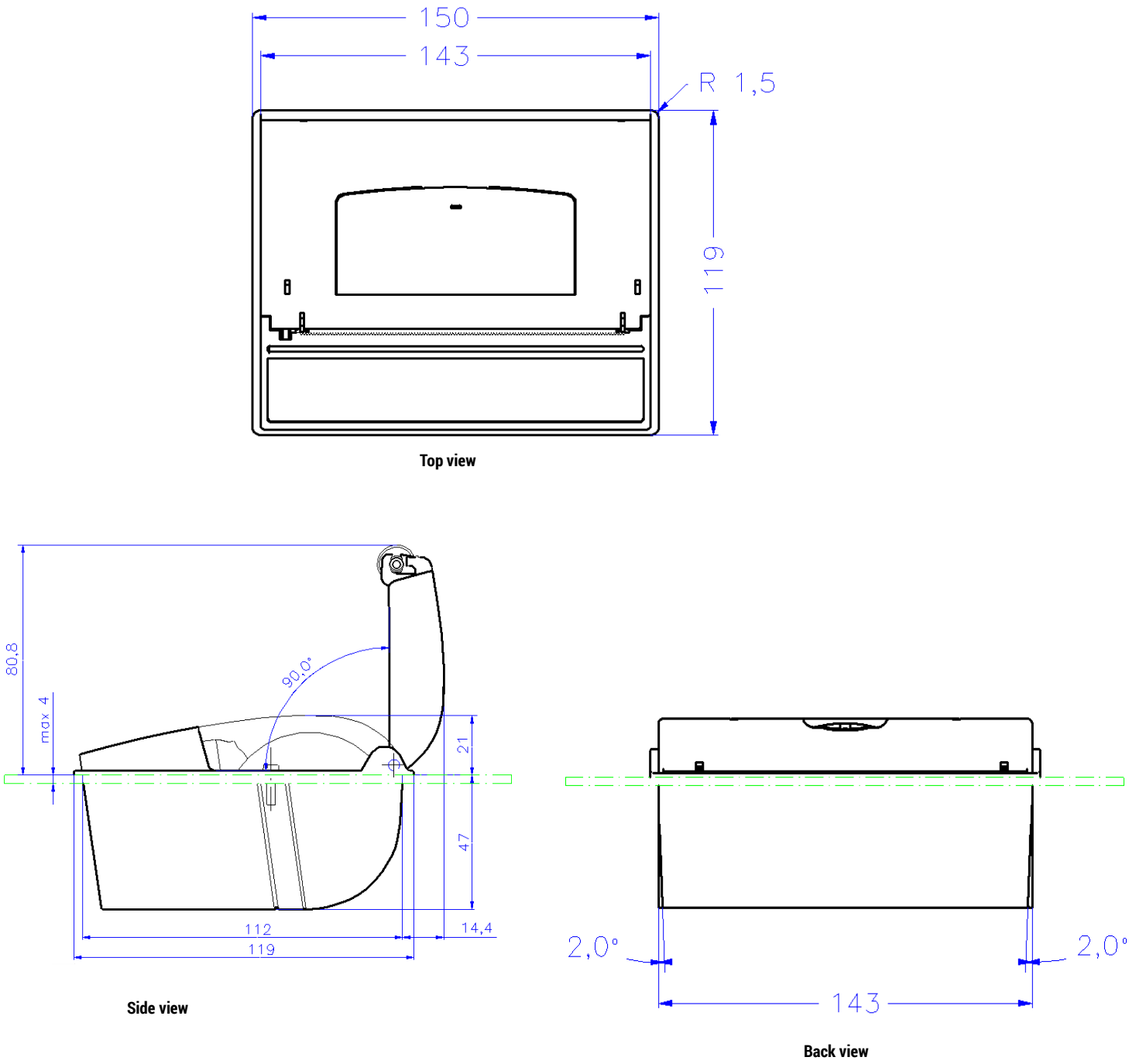

Figure 6: Dimensions GeBE-MULDE Maxi in mm

12 TECHNICAL DATA

	GPT-4454-C32
Insert paper	easy paper loading
Print procedure	thermal direct print
Resolution	8 dots/mm (203dpi), 832 dots/line
Print speed	max. 70 mm/s (2.76 inch/s)
Paper width	113.5 ±0.5 mm (4.47 ±0.02 inch)
Print width	104 mm (4.09 inch)
Paper thickness	70 – 100 µm (2.76 - 3.94 mil) or GeBE thin labels
Paper length	approx. 43 m (47.03 yd)
Paper roll diameter	max. 60 mm (2.36 inch)
Supply voltage	4.5 – 8.5 VDC or 10 – 36 VDC with DC/DC converter
Current consumption print	adjustable via command: approx. 0.7 - 6.0 A (peak)
Current consumption without print	approx. 60 mA (depending on interface)
Available interfaces	USB, RS232
Fonts	23 fonts extendable, UTF-able
Barcode	EAN8, EAN13, UPCA, Code39, 2of5int, Code128, QR Code
MTBF*)	50 km (31 mile)
Dimensions (W x H x D)	150 x 119 x 68 mm (5.91 x 4.69 x 2.68 inch), mounting depth: 47 mm (1.85 inch)
Weight incl. paper roll	approx. 500 g
Housing	PA6 with 15% glass fiber, color anthracite RAL 7016
Environment)**	-20°C – +60°C (-4°F – +140°F) with specified paper
Humidity	10 – 90 % rel. humidity, without condensation
Storage condition	-20°C – +70°C (-4°F – +158°F) at 10 – 90 % rel. humidity, without condensation

*) Life cycle according to mechanism testing conditions of the manufacturer with specified paper only. Please inquire. The life cycle of the print head is an averaged expectable performance and no guaranteed data. Under optimum conditions, the above listed data can be achieved using specified paper according to our documentation TI-606.
**) In case the print head reaches the maximum ambient temperature, the printer will interrupt operation until cooling down and sends an error message.
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