



## GeBE-MULDE Mini

OPERATING MANUAL

## GPT-4352(-60)



### Compact 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 18.*



***Safe operation of this device is only warranted, 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 18.***



*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 18.*

- 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 22.
- 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 9.

## 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 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.gebe.net](http://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

#### CONFIG

The front panel thermal printer GeBE-MULDE Mini GPT-4352(-60) adapts to diverse preconditions and integration situations. The space-saving printer GPT-4352(-60) is compatible to PCL3 graphics.

### ASSEMBLY



The fiberglass reinforced plastic housing supports stationary installation for industrial usage.

### 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  $\varnothing$  31 mm (1.22 inch) serves approximately 11 m (12.03 yd) printouts, the  $\varnothing$  60 mm (2.36 inch) paper roll stores approximately 43 m (47.03 yd) length – more or less the fourfold amount.

The GeBE-MULDE Mini type GPT-4352-60 also prints on self-adhesive labels.

### TEMPERATURE RANGE



With specified paper, the printer can be used in a temperature range  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $140^{\circ}\text{F}$ ), also suitable for outdoor application.

### BARCODE



Barcode support for Code39, 2of5interleaved, EAN13 and optional on request for EAN8, Code128c and PDF417.

### INTERFACES



GeBE-Mulde Mini can be addressed via an USB, RS232 or TTL interface.

## 3 LAYOUT AND FUNCTIONS



Figure 1: GeBE-MULDE Mini GPT-4352-31 parts and functions

Figure 2: GeBE-MULDE Mini GPT-4352-60 parts and functions

### Designation

1	Lever for paper tray
2	Paper tray
3	Button FEED
4	LED green

### FEED BUTTON

The FEED button (3/figure 1+2) 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.

### 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-A8-E-0559.

### SELF TEST

By starting a self test printout, the printer functions can be tested. For this purpose, the FEED button (3/figure 1+2) 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.



## 3.2 CONNECTIONS

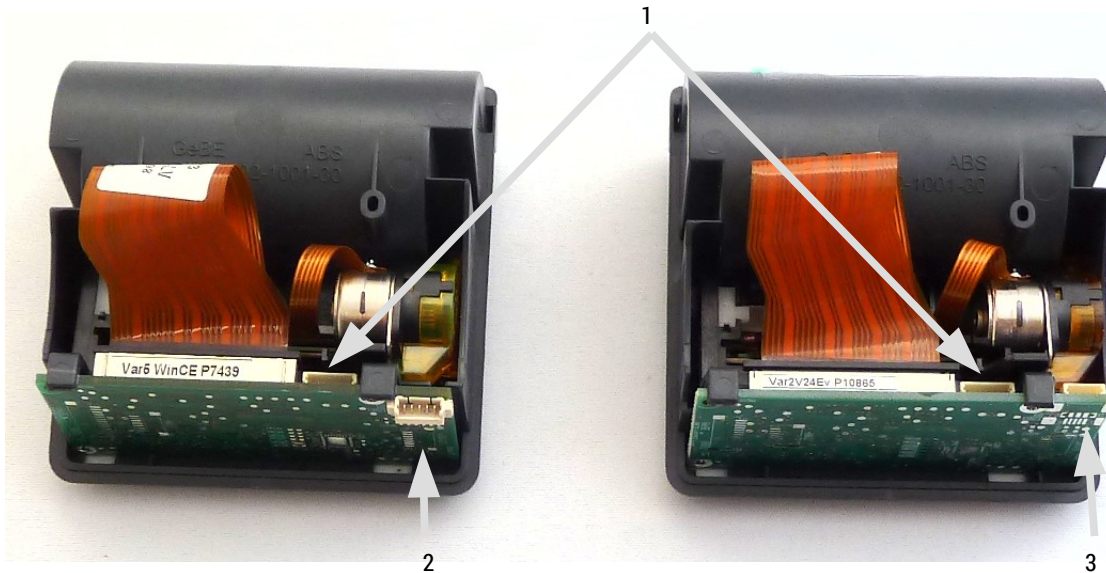


Figure 3: Controller board GCT-4392 USB version

Figure 4: Controller board GCT-4392 RS232 version


### Overview connection

No.	Designation	10-36 VDC GCT-4393	4.5-6.5 VDC GCT-4392
1	Power supply	J2	J1
2	USB	J5	J204
3	RS232	J201	J2

## 3.3 STATUS MESSAGES


The integrated STATUS LED (4/figure 1+2) 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-A8-E-0559.

## 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 are listed in the software manual SoMAN-A8-E-0559.


## 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-A8-E-0559.

 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 18.

## 3.6 CONTROLLER AND DRIVERS

Following drivers support the printer controller GCT-439x:

- 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 Mini do not include any accessories!

Please order accessories separately according to the table in chapter 4.3 ACCESSORIES AND SPARE PARTS.

**Article designation:**

GPT-4352-31-A8-92-USB-LV resp. GPT-4352-60-A8-92-USB-LV

GPT-4352-31-A8-92-V.24-LV resp. GPT-4352-60-A8-92-V.24-LV

GPT-4352-31-A8-93-USB-DC10/36 resp. GPT-4352-60-A8-93-USB-DC10/36

GPT-4352-31-A8-93-V.24-DC10/36 resp. GPT-4352-60-A8-93-V.24-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	GPT-4352	GPT-4352-60
<b>Cable</b>			
12872	Data round cable USB 2.0, 5 pin, Molex to USB A, length 2,000 mm (78.74 inch)	x	x
11352	Data round cable RS232, 5 pin, JST SHR to Sub-D, length 1,000 mm (39.37 inch)	x	x
11387	Data cable RS232, 5 pin, JST SHR - one side open, length 500 mm (19.69 inch)	x	x
12451	Power supply cable 6-pin for 10 – 36 VDC connection, length 250 mm (9.84 inch)	x	x
11353	Power supply cable 7-pin for 4.5 – 8.5 VDC connection, length 250 mm (9.84 inch)	x	x
<b>Power supply</b>			
13695	Power supply 24VDC / 3A with Schuko plug and power supply cable	x	x
13696	Power supply 5VDC / 5A with Schuko plug and power supply cable	x	x
12618	DC/DC 10 - 36VDC coverter implemented for GPT-4352, alternatively use for little mounting depth	x	

Article number	Article description	GPT-4352	GPT-4352-60
<b>Spare parts</b>			
12774	Cover and lever, anthracite	x	
12893	Cover and lever, anthracite		x
11892	Exchange printer mechanism including platen roll	x	x
12116	Exchange platen roll	x	x
<b>Options</b>			
11414	Mounting frame for GPT-4352 in DIN housing 96x96 mm (3.78x3.78 inch)	x	
11415	Mounting frame for GPT-4352 in 3HE 19" rack with fastening screws	x	
12610	Mounting frame for GPT-4352-60 in 3HE 19" rack with fastening screws		x
12561	Interface converter ethernet to V.24, 8 - 36 VDC power supply, on request	x	x
<b>Paper</b>			
11347	7 years paper • roll ø 31 mm (1.22 inch) • core inside ø 7 mm (0.28 inch) • width: 56.5 ±0.5 mm (2.22 ±0.02 inch) • paper thickness: approx. 60 µm (2.17 mil) • outside coated • running length: approx. 10 m (10.94 yd)	x	
13855	10 years paper • roll ø 31.5 mm (1.24 inch) • coreless • width: 56.5 ±0.5 mm (2.22 ± .02 inch) • paper thickness: approx. 55 µm (2.17 mil) • outside coated • bisphenol-free and phenol-free • running length: approx. 13.5 m (14.76 yd)	x	
12033	25 years paper • roll ø 31 mm (1.22 inch) • core inside ø 7 mm (0.28 inch) • width: 56.5 ±0.5 mm (2.22 ± 0.02 inch) • paper thickness: approx. 60 µm (2.36 mil) • outside coated • bisphenol-free and phenol-free • running length: approx. 10 m (10.94 yd)	x	
12428	12 years endless labels • roll ø 31 mm (1.22 inch) • core inside ø 12 mm (0.47 inch) • width: 56.5 ±0.5 mm (2.22 ±0.02 inch) • paper thickness: approx. 128 µm (5.04 mil) • outside coated • running length: 4.3 m (4.70 yd)	x	
12410	7 years paper • roll ø 60 mm (2.36 inch) • core inside ø 7 mm (0.28 inch) • width: 56.5 ±0.5 mm (2.22 ±0.02 inch) • paper thickness: approx. 60 µm (2.36 mil) • outside coated • running length: approx. 45 m (49.21 yd)		x
12983	25 years paper • roll ø 60 mm (2.36 inch) • core inside ø 12 mm (0.47 inch) • width: 56.5 ±0.5 mm (2.22 ±0.02 inch) • paper thickness: approx. 60 µm (2.36 mil) • outside coated • running length: approx. 40 m (43.74 yd)		x
13377	12 years single labels • roll ø 60 mm (2.36 inch) • core inside ø 25 mm (0.98 inch) • width: 57.3 ±0.5 mm (2.26 ± 0.02 inch) • paper thickness: approx. 128 µm (5.04 mil) • outside coated • size: 52.5x50.8 ±0.5 mm (2.07x2.00 ±0.02 inch) • approx. 335 labels		x
<b>Customising</b>			
13015	Customer specific foil	x	x
13667	Housing in special colour RAL	x	
13668	Housing in special colour RAL		x

## 5 INSTALLATION

### 5.1 INSTALLATION IN A FRONT PANEL

The printer GPT-4352(-60) 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 2xM2 (GPT-4352)/2xM2.5 (GPT-4352-60) to the drill holes M2 (GPT-4352)/M2.5 (GPT-4352-60).

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

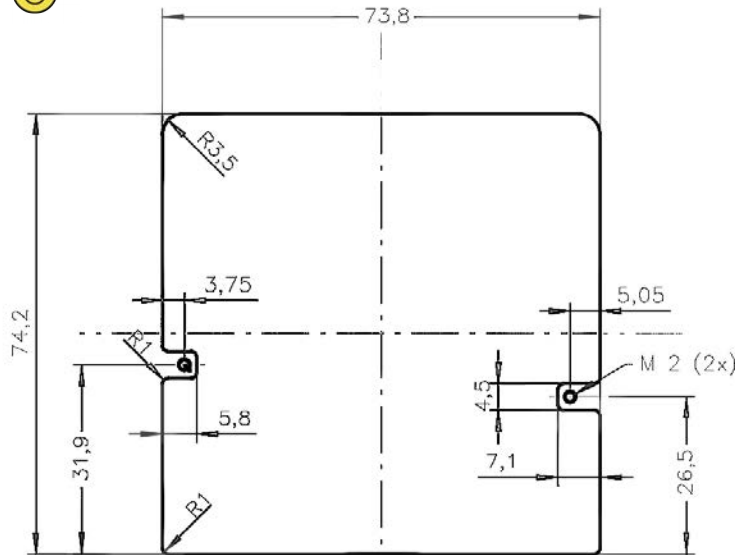


Figure 5 : Dimensions front panel installation of GPT-4352 in mm



Figure 6: GPT-4352 with installation frame

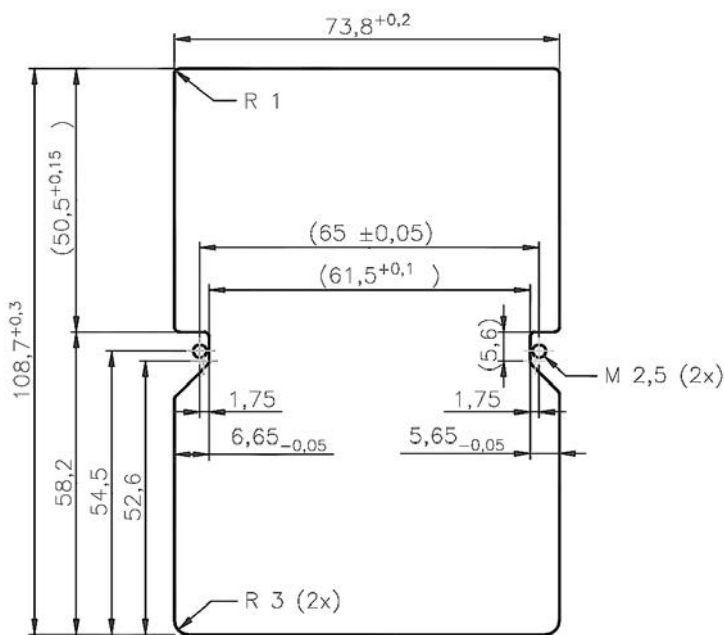


Figure 7: Dimensions front panel installation of GPT-4352-60 in mm

## 5.2 INSTALLATION IN DIN HOUSING

The GPT-4352(-60) can be integrated in a DIN housing.


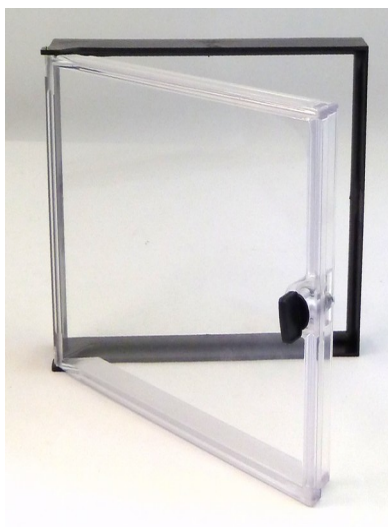
 For suitable DIN-housings contact our sales team, see chapter 8.4 GeBE-TECHNICAL SUPPORT, page 18.



Figure 8: GPT-4352 and GPT-4352-60 installed in a DIN housing

A plastic protection front door is optionally available:



## 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 4.5-6.5 VDC.



*The connected power supply has to be protected against overvoltage in accordance with EN/IEC 60950. Suitable power supplies for these variants 4.5-6.5 VDC or 10-36 VDC are available from GeBE, see chapter 4.3 ACCESSORIES AND SPARE PARTS, page 9.*



*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-4352(-60)-DC10/36 contains an integrated DC/DC converter with an input voltage range of 10-36 VDC. Die DC/DC supply is connected to the 6-pin socket 1/figure 3 (see chapter 3.2 CONNECTIONS, page 8).

Connection J2 - GCT-4393

Pin	Function	Colour
1	GND	black
2	GND	black
3	GND	black
4	VP	red
5	VP	red
6	VP	red

Socket:	JST SM06B-SRSS-TB	J2
Mating connector:	JST SHR-06V-S	AWG 32 - 28

Suitable connection cable: please refer to chapter 4.3 ACCESSORIES AND SPARE PARTS, page 9.

#### 6.1.2 FIXED VOLTAGE OPERATION 4.5-6.5 VDC

The printer GPT-4352(-60)-LV can be operated with an input voltage range of 4.5-6.5 VDC. The power supply is connected to the 7-pin socket 1/figure 3 (see chapter 3.2 CONNECTIONS, page 8).

Connection J1 - GCT-4392

Pin	Function	Colour
1	GND	black
2	GND	black
3	GND	black
4	VP	red
5	VP	red
6	VP	red
7	n.c.	

Socket:	JST SM07B-SRSS-TB	J1
Mating connector:	JST SHR-07V-S	AWG 32 - 28

Suitable connection cable: please refer to chapter 4.3 ACCESSORIES AND SPARE PARTS, page 9.

## 7 INTERFACES

The controller GCT-439x either contains an USB full speed interface or a serial RS232 or TTL 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 descriptions HaMAN-E-0671 (GCT-4392) and HaMAN-E-0925 (GCT-4393).

### 7.1 USB INTERFACE

The suitable interface cable has to be connected to the socket (2/figure 3) 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-4393) / J204 (GCT-4392)

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

Socket:	Molex 53261-0571	J5 / J204
Mating connector:	Molex 51021-0500	AWG 30 - 26



USB specification	V1.1 (USB 2.0 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 to socket (3/figure 3) 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 9).



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

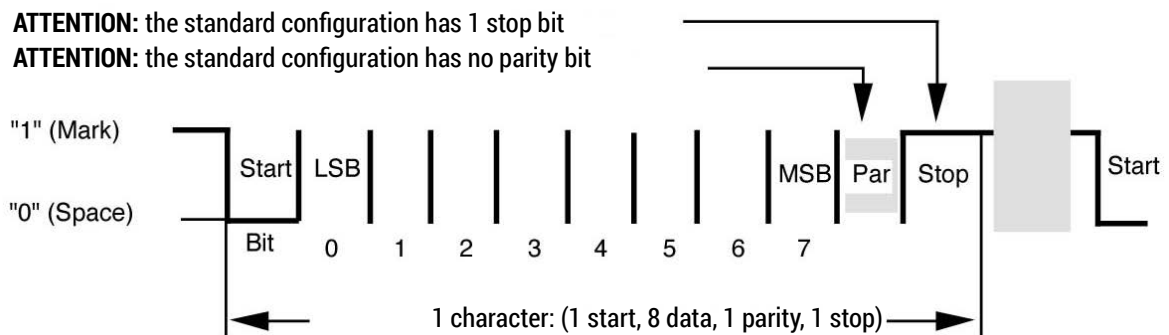
Connection J201 (GCT-4393) / J2 (GCT-4392)

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

Socket:	JST SM05B-SRSS-TB	J201 / J2
Mating connector:	JST SHR-05V-S	AWG 32 - 28

### 7.2.2 TIMING OF SERIAL INTERFACE RS232

Default time refers to the graphics:



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



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

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.

## 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 9.



*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.



*Adhesive labels may only be used with GeBE-MULDE Mini type GPT-4352-60.*

## 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 objects 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 16.



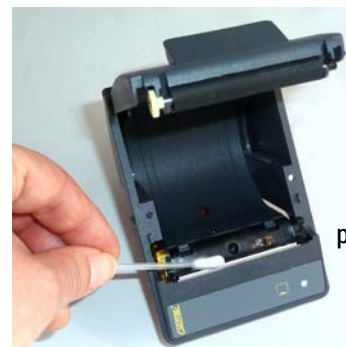
*Do not touch the print head as it may be damaged by static electricity.*

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.

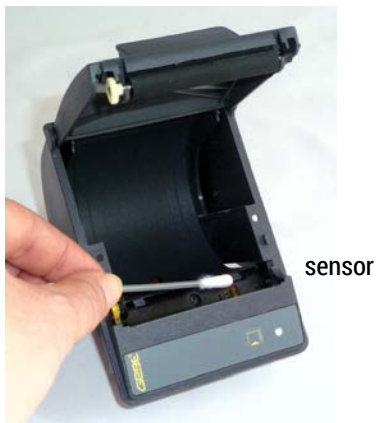


*In principle the printer must be kept dust-free.*

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



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

### 8.3 DOCUMENTS OF GPT-4352(-60)



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

The software manual SoMAN-A8-E-0559 or SoMAN-A8-D-0558 (German) may directly be requested from GeBE via email ([info@gebe.net](mailto: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](http://www.gebe.net) or send an email to [info@gebe.net](mailto: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
<b>Paper</b>		
The printer seems to print, paper is feeded forwards but it is not blackened.	<b>Paper:</b> 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.
<b>Power supply</b>		
The LED only extinguishes briefly during print start.	The power supply is not optimal.  <b>External power supply:</b> The power lead cable diameter of the external power supply is too thin.  Power output of the external power supply is too low.	<b>External power supply:</b> 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.)
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.		
<b>Serial interface</b>		
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.	<b>Interface problem:</b> The transmission is faulty. (Characters of the upper area are printed).	Use correct interface level (RS232, TTL). Transmission cable may be too long.
	<b>External power supply:</b> 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.
<b>USB interface</b>		
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 <sup>®</sup> driver.	Set virtual COM port according to installation instructions. Disable the „Job end“ action of the Windows <sup>®</sup> driver.

## 10 CE CERTIFICATE



The test setup includes the open frame power supply S-150-24 from MEAN WELL, article no.: 13694 resp. the open frame power supply S-25-05 from MEAN WELL, article no.: 13696.

### EU Konformitätserklärung / EU Declaration of Conformity

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Thermal Printer

1. **Gerätetyp/Produkt** (*Apparatus model/Product*): Drucker (*Printer*)
2. **Name und Anschrift des Herstellers:** GeBE Elektronik und Feinwerktechnik GmbH  
(*Name and address of the manufacturer*) 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:** beginnend mit Seriennummer (*beginning with serial number*): 1801xxxx  
(*Object of the declaration*)  
GPT-4352-31-A8-92-USB-LV GPT-4352-31-A8-93-USB-DC10/36  
GPT-4352-60-A8-92-USB-LV GPT-4352-60-A8-93-USB-DC10/36
05. **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** Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln  
(*EMC Law: December 14, 2016*) (*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** Einrichtung der Informationstechnik (*Information technology equipment*)  
EN 55022:2010 Deutsche Fassung (*German edition*) – 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** Einrichtung der Informationstechnik (*Information technology equipment*)  
EN 55024:2010+A1:2015 Deutsche Fassung (*German edition*) – 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 manufacturer (item 2)*)

**Unterzeichnet für und im Namen von:**

(*Signed for and on behalf of:*)

**Ort und Datum der Ausstellung:**

(*Place and date of issue:*)

**Name und Funktion** (*Signed for and on behalf of:*)

GeBE Elektronik und Feinwerktechnik GmbH  
Beethovenstr. 15, 82110 Germering, Germany  
Germering, 10.07.2018

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

GeBE Elektronik und Feinwerktechnik GmbH  
Beethovenstraße 15  
82110 Germering  
Germany

phone +49.89.894141-0  
fax +49.89.894141-33  
email info@gebe.net  
Internet www.gebe.net

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date July 10, 2018  
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Errors and changes reserved.

## 11 DIMENSIONS

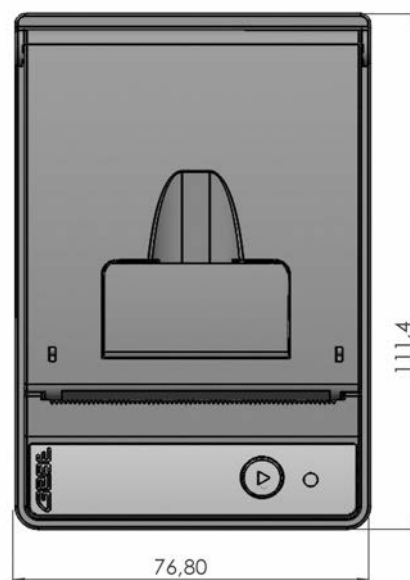
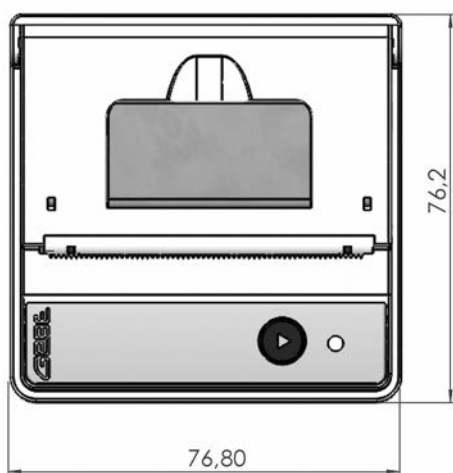
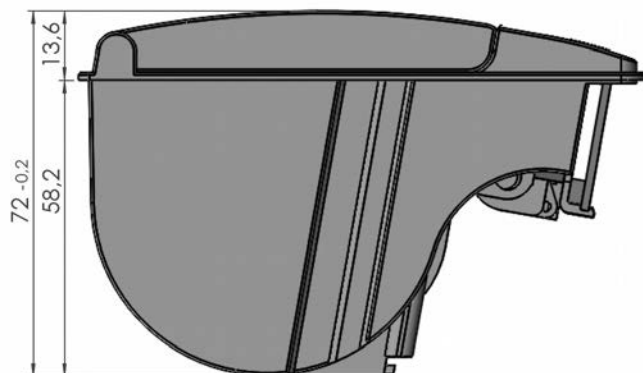
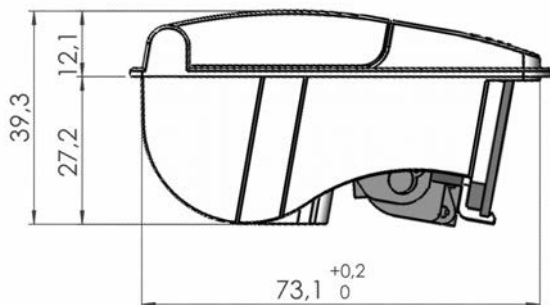


Figure 9: Dimensions for GeBE-MULDE Mini GPT-4352-31 in mm

Figure 10: Dimensions for GeBE-MULDE Mini GPT-4352-60 in mm

## 12 TECHNICAL DATA

	GPT-4352-31-A8	GPT-4352-60-A8
Insert paper	easy paper loading	
Print procedure	thermal direct print	
Resolution	8 dots/mm (203dpi), 384 dots/line	
Print speed	max. 50 mm/s (1.97 inch/s)	
Paper width	56.5 ±0.5 mm (2.22 ±0.02 inch)	
Print width	48 mm (1.89 inch)	
Paper thickness	50 - 70 µm (1.97 - 2.76 mil) or GeBE thin labels	
Paper length	approx. 11 m (12.03 yd)	approx. 43 m (47.03 yd)
Paper roll diameter	max. 31 mm (1.22 inch)	max. 60 mm (2.36 inch)
Supply voltage	4.5 – 6.5 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. 45 mA	
Available interfaces	USB or RS232 or TTL	
Fonts	IBMII 24, 32, 42, 48, 54 characters/line, extendable	
Barcode	EAN13, Code39, 2of5int, optional on request: EAN8, Code128c, PDF417	
MTBF*)	50 km (31 mile)	
Dimensions (W x H x D)	76.8 x 76.2 x 39.3 mm (3.02 x 3.0 x 1.55 inch)	76.8 x 111.4 x 72.0 mm (3.02 x 4.39 x 2.83 inch)
Weight incl. paper roll	approx. 150 g	approx. 260 g
Housing	ABS, similar to RAL 7016	PA6 with 15% glass fiber, similar to 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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