

Protocol Printer

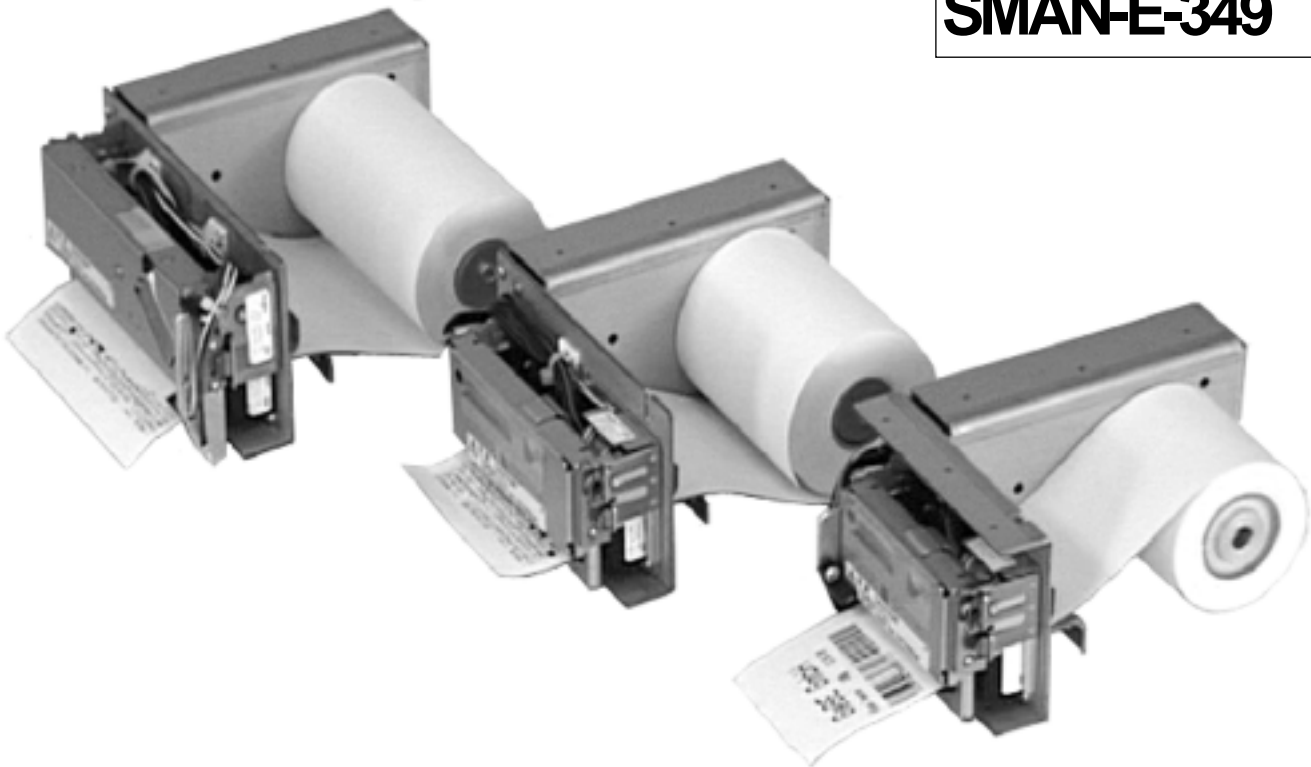
GPT-686x

GeBE

Elektronik und
Feinwerktechnik GmbH
Module und Geräte zum Eingeben,
Auswerten, Anzeigen und Ausdrucken ana-
loger und digitaler Daten.

GeBE Document No.:

SMAN-E-349



Operation Manual

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Description:

The printer system INFO was designed for industrial applications. Equipped with top-quality Fujitsu thermal printer mechanisms with fixed print lines, this printer system meets the high demanded requirements.

The thermal printer mechanisms are completely maintenance-free, only the paper has to be exchanged for operation. The series INFO was mainly developed for paper catch systems, however, it can also be used for front panel solutions. The serial RS232 interface and the 24 V power supply are carried out on the back through standard connectors.

Service-Friendly:

The paper path is easily accessible throughout its entire length. This makes it easier to change the paper and considerably speeds up the removal of faults. It also allows the printer to be installed in places without easy access. The cutter can be opened up with one hand and will also remain in the open position. The insertion of paper is supported by an insertion guide and an auto paper load.

Closed System Solution

Extensive sensors and self diagnose routines will constantly monitor the print system after it is turned on and during operation. They report the status online or on request to the host system. With the synchronizing command, the printer reports the current processing status of the print buffer. This way, the host can be informed on what has just been printed, even if the buffer is filled. The printer will detect the fed paper length, since the last change of paper, in 1/10 meter increments and will display this information on request. In addition, a remaining-paper sensor will report, when about 10% paper is left on the roll. An optional paper output sensor reports whether the cutting was successful and the ticket fell into the paper catch. The total output, the operating time, total cuts and the last ten error messages will be stored. Logos, initializations or even macros can be filed in 13 stored text files in the EEPROM. They can be called by command. On request (licence), the printer can be prepared for firmware updates through the RS232. As a standard, the printer has a RS232 interface that can be operated with baud rates up to 115 kbps. In the graphics mode, the printer supports PCL5 compatible compression procedures and can therefore reach calculated transmission rates up to 400 kbps. This allows printing of full graphics with up to 80 mm/s. Optionally, the printers are available with Centronics, serial TTL, RS422/485, Current Loop, or USB (in preparation). For mobile applications, we offer an active paper roll brake as well as a paper guide on the side.

Safety Comments



Please read the operation manual carefully before operation.

During installation: Always disconnect the power..

The appropriate application and operation according to the operation manual is required for product liability and warranty.

If the user attempts to repair the product, all factory warranties will be null and void.

For technical questions please contact the GeBE technical support.

Errors and changes reserved. The technical data given are non-committal information and do not represent any assurance of certain features. Our terms of payment and delivery apply. All rights reserved.

Installation as a Printer with Paper Catch:

The GPT-686x has six M3 mounting holes each on the upper and the lower mounting plane of the housing. Please select the mounting plane according to the paper bend and the arrangement of the paper catch.

The mounting plane is clear in the area around the paper roll. Therefore, paper roll diameters up to 150mm can be used.

The GPT-686x has 3 alternative paper roll inputs to optimize the roll diameters and the mounting plane. Please indicate, which mounting plane you want to use.

For mobile applications, the cutter may have to be secured against opening on its own.

Problems with Paper Catch Solutions:

1. Static Charging of the Receipt:

The friction of the paper against plastic or ungrounded areas may cause static build-up. This build-up can cause stickiness during the feeding process.

Preventative Action:

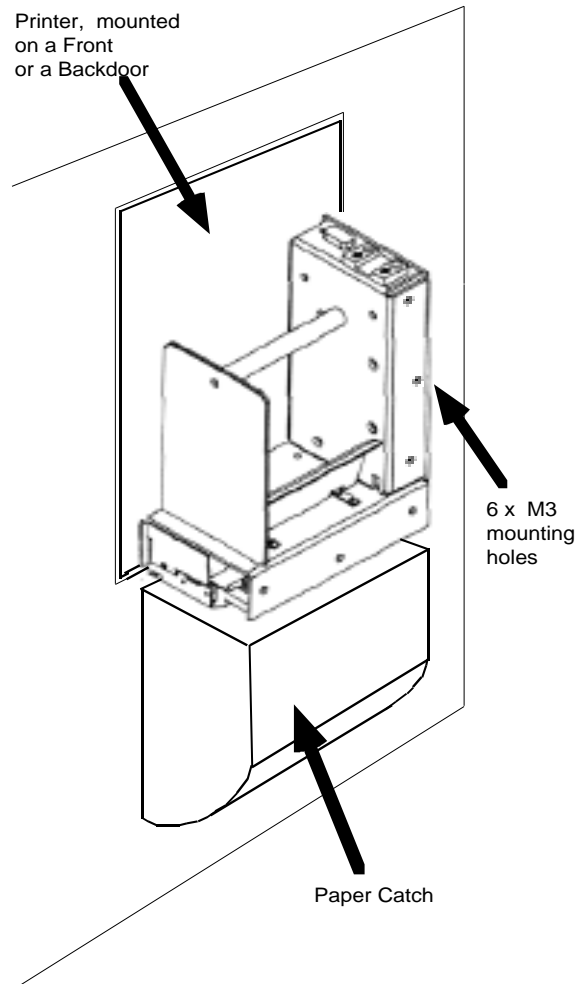
Potential equalization of metal areas, possibly installation of additional metal areas.
Use of anti-static paper.

2. Humidity in the Paper

Operation at the dew point during lower temperatures results in the paper absorbing moisture. This can cause stickiness during the feeding process.

Preventative Action:

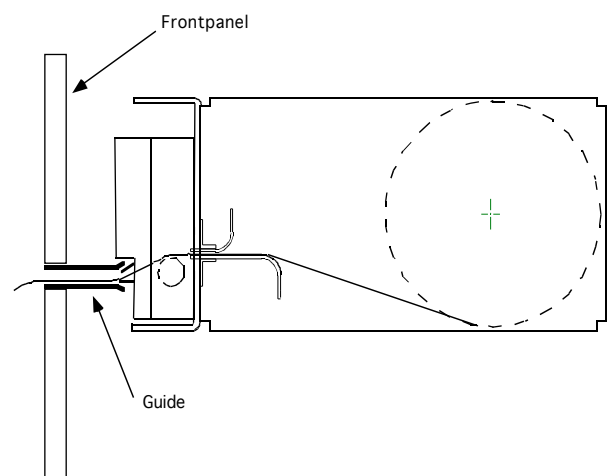
Climatization of the device.
Use top coat paper.



Installation as a Front Panel Printer

The GPT-686x has six M3 mounting holes each on the top and bottom of the housing.

For the paper path from the mechanism to the front slot a guide is required. If all the receipts have the same length, the guide can be about 1cm shorter than the receipt. This will prevent the paper from getting obstructed during the print process.

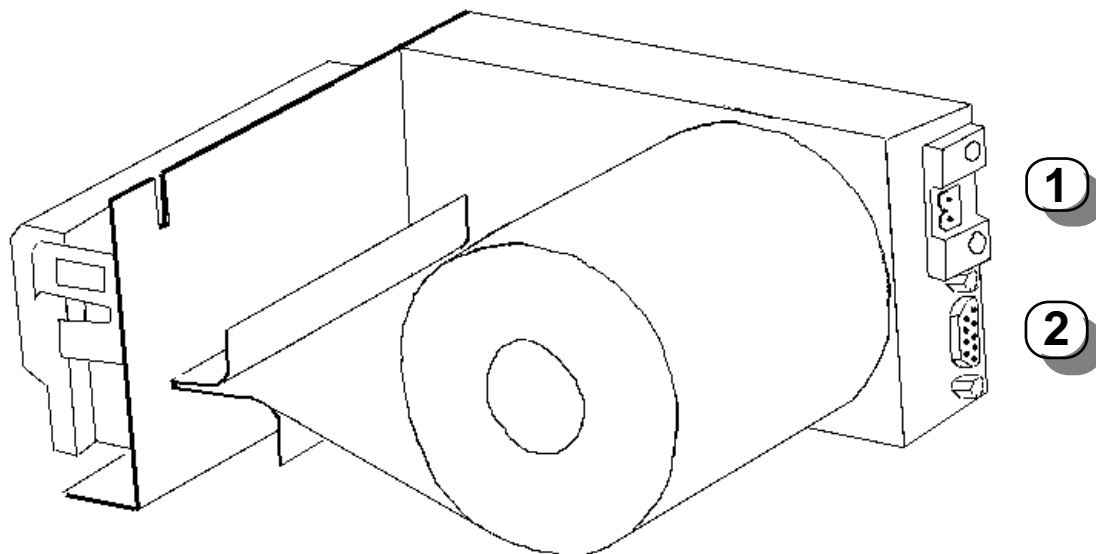


During Installation:

Always disconnect the power.

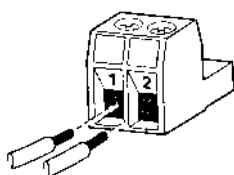


Connecting the Power Supply and the RS232



1

Power Supply:



The power supply is connected through a standard power connector from Phönix.

The connector has screw clamps. For installation, only a screw driver size 1 is required.

Litz wires have to be terminated with multicore cable ends.

Connector type MSTB-2.5/2-ST-5.08

Cable diameters :

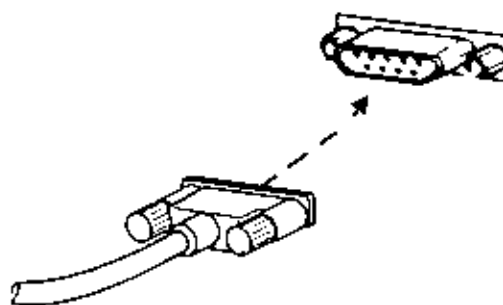
0.5 mm² if cable length < 0.5 m

0.8 mm² if cable length < 1.5 m

1.0 mm² if cable length < 2.0 m

2

Serial Interface:



The RS232 is connected through standard Sub-D connectors.

A connection to a PC only requires a 1:1 cable (connector / socket) (no 0-modem).

Line length max. 9 m (twisted: 15 m)

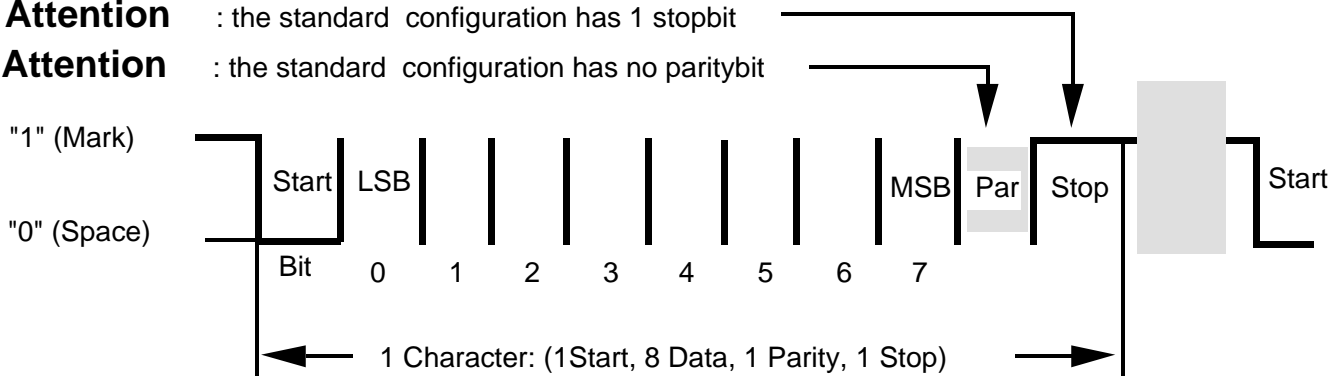
Serial Interface RS232 (V.24)

Connector SuB-D 9 pin socket with a 1:1 assignment to the PC.
Therefore, a 0-modem connection is not necessary

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

Attention : the standard configuration has 1 stopbit

Attention : the standard configuration has no paritybit



Status Messages of the Printer:

Every error is reported through the serial interface.

When an error is cleared, the corresponding small letter will be sent, followed by an "X".

Meassges	Error Occured	Error Cleared	Comments
Reset	"R"		
Watchdog reset	"R"		
End of error		"X"	always, also after hardware, software, and watchdog reset
Buffer empty	<Xon> = \$11		
Buffer full	<Xoff> = \$13		
Synchr. message	all char.		Each sent character is reported back
Paper end	"P"	"p"	
Paper <10%	"Z"	"z"	
Head open	"H"	"h"	
Paper output	"G"	"g"	
Cutter blocked	"C"	"c"	
Temp. low	"K"	"k"	Temperature at the print head too low
Temp. high	"T"	"t"	Temperature at the print head too high
Vp too low	"U"	"u"	
Vp too high	"M"	"m"	
Motor temp. high	"E"	"e"	Temperature at the printer motor too high
EE-OK	"E0"	"E0"	Faultless completion of EEPROM command
EE-invalid	"E1"	"E1"	Invalid stored text file or statistics variable no
EE-password	"E2"	"E2"	Wrong password for EEPROM access
EE-overflow	"E3"	"E3"	Overflow of text file memory
EE-time out	"E4"	"E4"	EEPROM byte programming time exceeded

Which thermal paper is suitable ?

The printers are specified for paper widths of 59.5, 84.5, and 113.5 mm +/- 0.5, up to 100 (120) g/m².
Paper type : STORA T7051. **Other papers can be problematic.**

As a standard, GeBE is offering paper rolls with a diameter of 70 mm (app. 40 m length) with 76g/m².
Thermal papers that are resistant against water, grease, and alcohol are available for special applications. We will gladly assist you in your selection of the suitable thermal paper.

Which side of the GeBE thermal paper can be printed on ?

On the paper roll, the inner side is always the side to print on. If you should still have doubts, just do the fingernail test. The thermosensitive side will turn black under the pressure of a sharp object.

How to insert the paper?

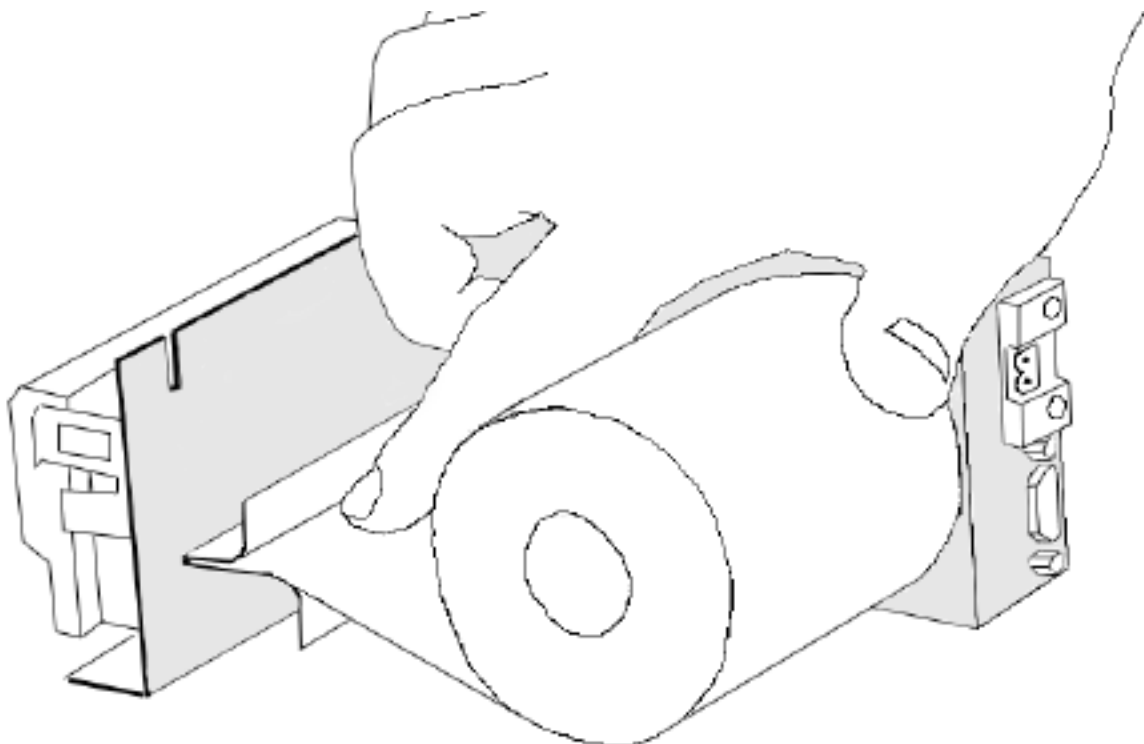
Pull off the empty paper roll from the roll holder. Insert new paper roll.

Put paper on the paper guide, and push it toward the mechanism (see draft).

As soon as the mechanism recognizes the paper, it will automatically be pulled in.

The paper is now inserted.

For printers with the side paper guide, open quick-release fastener and lift off metal sheet for paper insertion.
After the paper was pulled in, reassemble the side guide, having the paper run under the guide axle.



GPT-6862 / 6863 / 6864

Printing technique:	Fixed thermal print line
Print speed:	max. 80 mm/s
Resolution:	8 dots / mm horizontally
Dots per line:	448 / 576 / 832
Printing width:	56 / 72 / 104 mm
Thermal paper:	59.5/84.5/113.5 mm ± 0.5 mm ; 60 - 100 g/m ² (120 g/m ² on request)
Roll diameter:	Standard 70 mm, max.150 mm, diameter of center 25 mm
Cutter:	Full and partial cut (one strap remaining)
Operation temperature:	0°C up to +50°C (-10°C up to +60°C with GeBE Paper)
Humidity:	10% to 80% rel. humidity, no moisture condensation
MTBF:	Mechanism: 50 km, cutter: max. 500,000 (300,000) cuts
Printer buffer :	250 characters, larger buffer on request
EEPROM :	2 kbytes, optional up to 16 kbytes
Character Set :	3 fonts : IBM character set II
Interfaces :	RS232 , optional : Centronics
Stored text files:	Programmable by the manufacturer or the user
Remaining paper:	Serial report to the host system
Paper output:	Optional, serial report to the host system
Baud rates:	1,200; 2,400; 4,800; 9,600; 19,200; 38,400; 57,600; and 115,200 Other baud rates on request
Mode:	adjustable: 7, 8 data bits, 1,2 stop bits , none , odd, even parity
Handshake:	Hardware handshake and XON / XOFF
Operating voltage:	16 - 26.5 VDC
Power consumption online:	app. 40 m A
Power consumption max:	For GPT-6862 max. 2 A, in current level 1
Norms:	CE: see conformity declaration

Options:

- Centronics
- Active paper roll brake for mobile applications
- Side guiding sheet with guide bolt to stabilize the paper roll
- Paper output sensor
- 16 KByte EEPROM for LOGO download

Accessories:

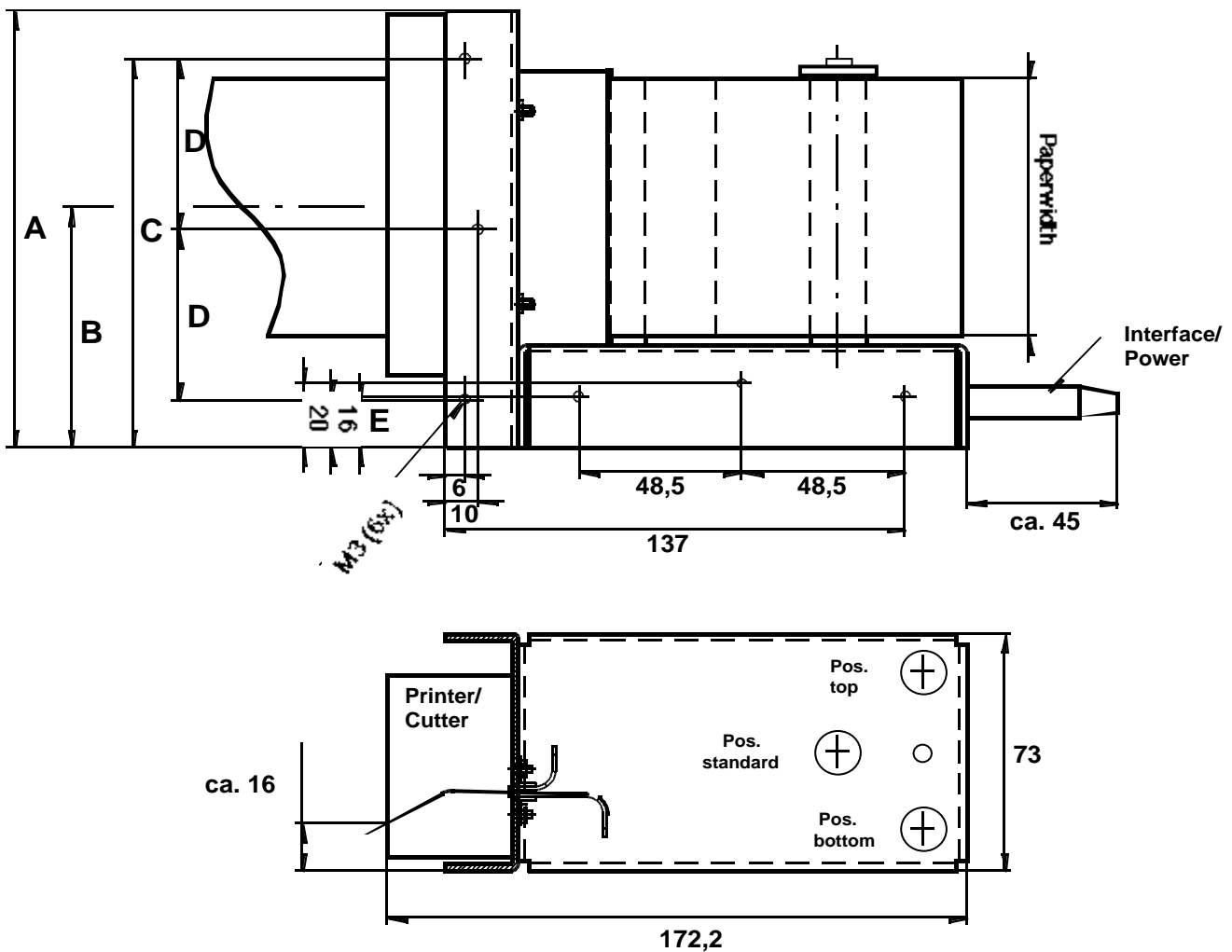
Paper: GeBE offers paper rolls that are coated on the inside, 76 g/m²

• GPT-6862	thermal paper 70 mm Ø (ca. 40m)	: GPR-T01-060-070	on stock
	thermal paper 100 mm Ø (ca. 90m)	: GPR-T01-060-100	on request
	thermal paper 110 mm Ø (ca. 110m)	: GPR-T01-060-110	on request
	thermal paper 150 mm Ø (ca. 210m)	: GPR-T01-060-150	on request
• GPT-6863	thermal paper 70 mm Ø (ca. 40m)	: GPR-T01-085-070	on stock
	thermal paper 110 mm Ø (ca. 110m)	: GPR-T01-085-110	on request
	thermal paper 150 mm Ø (ca. 210m)	: GPR-T01-085-150	on request
• GPT-6864	thermal paper 70 mm Ø (ca. 40m)	: GPR-T01-114-070	on request
	thermal paper 110 mm Ø (ca. 110m)	: GPR-T01-114-110	on request
	thermal paper 150 mm Ø (ca. 210m)	: GPR-T01-114-150	on request

Cables:

- Power supply 2 wires 50 mm : GKA-245
- RS232 1:1 SuB-D 9 pol. 2000 mm : GKA-304

Housing Dimensions: (Steel 2 mm)



	GPT-6862	GPT-6863	GPT-6864
Paper / printing width	60 / 56 mm	85 / 72 mm	114 / 104 mm
A	109.7	135.6	162.7
B	55.3	74.7	81.3
C	94.7	120.6	147.7
D	39.4	52.8	66.3
E	16	16	15
Print speed	bis 80 mm/s		
Voltage	16 - 26.5 V		
Current max. standby	40 mA		
Current max. printing app.	2 A	3 A	4 A
Interfaces	RS232 up to 115kbps , optional (Centronics, TTL, RS422/485, TTY ...)		
Data compression	PCL5 compatible graphic commands app. 3 - 4 :1		
Character sets, cpl	28,49, or 64	36,64, or 82	52, 92, or 118
Bar code	Code 39, 2 out of 5 int, EAN13, EAN 8		
Environment	-10°C up to 60°C (14°F - 140°F)		
MTBF	50 km printed paper / 500.000 cuts		/ 300.000 cuts
Dimensions in mm	172.2 x 73 x 109.7	172.2 x 73 x 135.6	172.2 x 73 x 162.7
Roll diameter	max. 150 mm, in position "bottom and "top" (25mm center)		
Weight	995 g	1.100 g	1.350 g

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