



TEC Thermal Printer

B-SX4T SERIES

Product Description

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CAUTION!

1. *This manual may not be copied in whole or in part without prior written permission of TOSHIBA TEC.*
2. *The contents of this manual may be changed without notification.*
3. *Please refer to your local Authorised Service representative with regard to any queries you may have in this manual.*

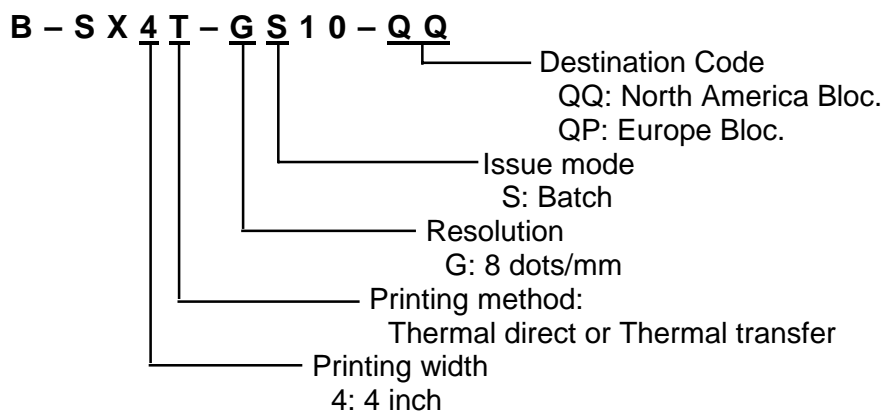
1. OUTLINE

1.1 PRINTER SPECIFICATIONS

- 1) Various bar codes, characters and graphic data can be printed using both thermal transfer and thermal direct methods. This printer can also print writable characters and logos at designated coordinates by using a graphic command.
- 2) The Centronics and RS-232C are available as standard interfaces between the printer and a PC. In addition, optional interfaces such as PCMCIA interface, USB interface, LAN interface, and expansion I/O interface are available.
- 3) A 32-bit CPU and a Field Programmable Gate Array (FPGA) equipped with several peripheral LSIs realizes high system performance.
- 4) With the element positioned at the edge of the print head, print quality is improved because the media passes straight through.
- 5) This printer accommodates a max. format size of 104.0 mm wide by 1498.0 mm long and a max. printing speed of 10"/sec.
- 6) High throughput can be obtained with "on-the-fly" formatting.
- 7) Installation space is minimized because the media is loaded internally.
- 8) The metal cover and damper provide a heavy-duty enclosure.
- 9) Various optional devices are available: Strip module including the rewinder, the ribbon saving function which economizes ribbon usage, rotary cutter module, and swing cutter module.

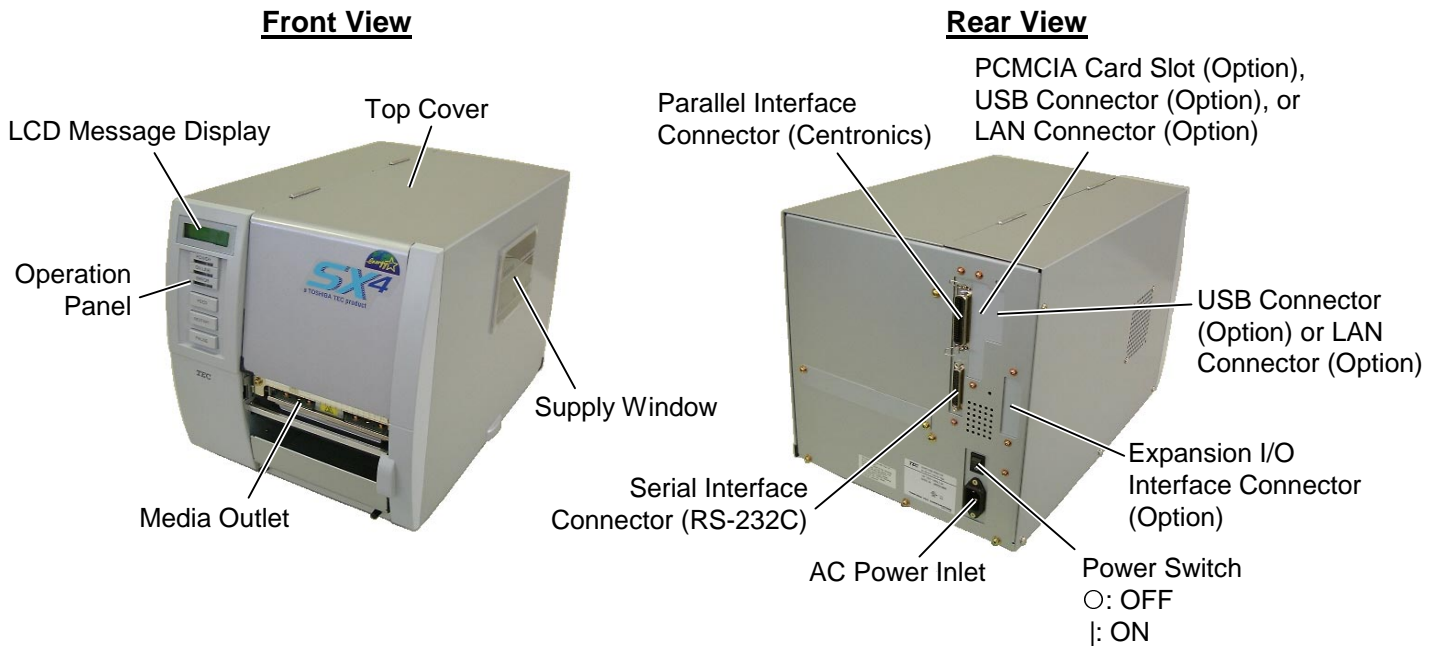
NOTE: Every size is written in millimeter (mm) in this manual. To obtain the size in inch, divide by 25.4.

1.2 DESCRIPTION OF MODEL NUMBER

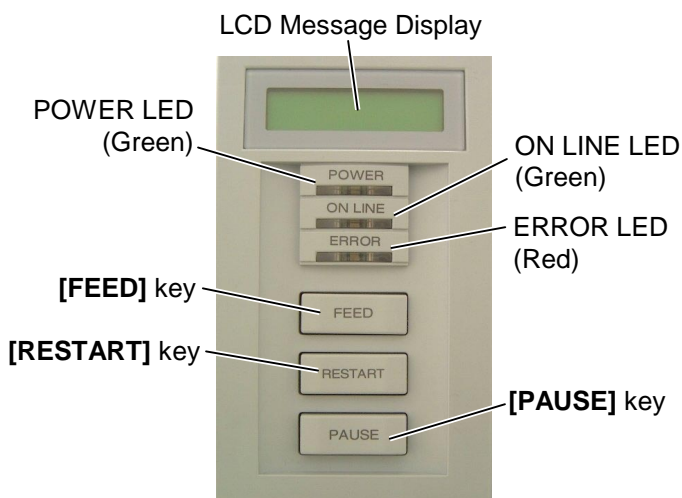


1.3 APPEARANCE AND DIMENSIONS (APPROXIMATE)

1.3.1 Front View/Rear View



1.3.2 Operation Panel



LCD Message Display

When the power is turned on and it is ready to print, ON LINE is displayed.

POWER LED (Green)

Lights when the power is turned on.

ON-LINE LED (Green)

- 1) Flashes when communicating with a host PC.
- 2) Lights while printing.

ERROR LED (Red)

Lights when the printer does not operate correctly.

FEED key

Feeds paper.

RESTART key

Resets the printer when paused or when an error occurs. Used to set the threshold. (Refer to the Owner's Manual.)

PAUSE key

Pauses printing.

Message display shows PAUSE and a remaining count. Used to set the threshold (Refer to the Owner's Manual.)

1.3.3 Dimensions (Approximate)

Standard: 291 mm (W) x 460 mm (D) x 308 mm (H)

With cutter module: 291 mm (W) x 521 mm (D) x 308 mm (H)

1.4 BASIC SPECIFICATIONS

- 1) Printing method Thermal direct printing or thermal transfer printing
- 2) Print head (4 inches)
 - (1) Total number of dots 832 dots
 - (2) Dot density 8 dots/mm
 - (3) Effective print width 104.0 mm
 - (4) Thermal pitch 0.125 mm
- 3) Print speed 3"/sec., 6"/sec., 10"/sec.
NOTE: These print speeds are available when printing ratio is less than 15% of the entire label or tag paper.
- 4) Format size (W) x (L) Max. 104.0 mm x 1498.0 mm
- 5) Issue mode Batch
 Auto cut (Auto cut mode is available only when the optional cutter is attached.)
 Strip (Strip mode is available only when the optional strip module is attached.)
- 6) Type of bar code/two dimensional code
 - (1) JAN8, EAN8, JAN13, EAN13, UPC-A, UPC-E
 - (2) EAN8, EAN13, UPC-A, UPC-E + 2digit
 - (3) EAN8, EAN13, UPC-A, UPC-E + 5digit
 - (4) NW-7
 - (5) CODE39 (STANDARD)
 - (6) CODE39 (FULL ASCII)
 - (7) ITF
 - (8) MSI
 - (9) CODE93
 - (10) CODE128
 - (11) EAN128
 - (12) Data Matrix
 - (13) PDF417
 - (14) QR Code
 - (15) Industrial 2 of 5
 - (16) Customer Bar Code
 - (17) POSTNET
 - (18) RM4SCC
(Royal Mail 4 State Customer Code)
 - (19) KIX CODE
 - (20) Maxi Code
 - (21) Micro PDF417
 - (22) CP CODE
 - (23) RSS14
- 7) Bar code rotation 0°, 90°, 180°, 270°
- 8) Magnification of bar code
 ■ UPC/EAN/JAN/CODE93/128/PDF417.....Up to 6 modules can be automatically calculated using 1-module width designation (1 to 15 dots).

Bar code \ Dots/Module		2	3	4	5	6	7	8
		UPC-A/E EAN8/13 JAN8/13	Min. Module Width (mm)	0.25	0.38	0.50	0.63	–
	Magnification (times)	0.76	1.14	1.51	1.91	–	–	–
CODE93 EAN128 CODE128 PDF417	Min. Module Width (mm)	0.25	0.38	0.50	0.63	0.75	0.88	1.00

Bar code \ Dots/Module		9	10	11	12	13	14	15
		UPC-A/E EAN8/13 JAN8/13	Min. Module Width (mm)	–	–	–	–	–
	Magnification (times)	–	–	–	–	–	–	–
CODE93 EAN128 CODE128	Min. Module Width (mm)	1.13	1.25	1.38	1.50	1.63	1.75	1.88
PDF417		1.13	1.25	–	–	–	–	–

- NW-7/CODE39/ITF/MSI/Industrial 2 of 5The width of narrow bars, wide bars and spaces can be optionally changed in a range of 1 to 99 dots.
- Data MatrixThe width of one cell can be changed in a range of 1 to 99 dots.

9) Type of characters

- | | |
|---|---|
| (1) Times Roman medium (12, 15 point) | (9) Prestige Elite medium (10.5 point) |
| (2) Times Roman bold (15, 18, 21 point) | (10) Prestige Elite bold (15 point) |
| (3) Times Roman Italic (18 point) | (11) Courier medium (15 point) |
| (4) Helvetica medium (9, 15, 18 point) | (12) Courier bold (18 point) |
| (5) Helvetica bold (18, 21 point) | (13) OCR-A, B (12 point) |
| (6) Helvetica Italic (18 point) | (14) Outline font (Helvetica bold, Helvetica bold proportional, Price Font (1,2,3), Times roman proportional, Pop Proportional, Proportional) |
| (7) Presentation bold (27 point) | (15) Writable characters (2-byte character is available.) |
| (8) Letter Gothic medium (14.3 point) | |

10) Character code

- (1) PC-850 (2) PC-8 (3) PC-852 (4) PC-857 (5) Arabic (6) LATIN 9 (7) PC-1257 (8) PC-1254 (9) PC-1253 (10) PC-1252 (11) PC-1251 (12) PC-1250 (13) PC-855 (14) PC-851

11) Character magnification

- (1) Regular font: 0.5 ~ 9.5 times (magnified by 0.5 times in each direction)
 (2) Outline font: 2.0 ~ 85.0 mm (magnified 0.1 mm in each direction)

NOTE: When the outline font size is large, the ribbon may wrinkle according to the quality of the ribbon or print tone.

12) White or black background all types of characters are available

13) Character rotation 0°, 90°, 180°, 270°

14) Character strings rotation 0°, 90°, 180°, 270°

15) Type of line

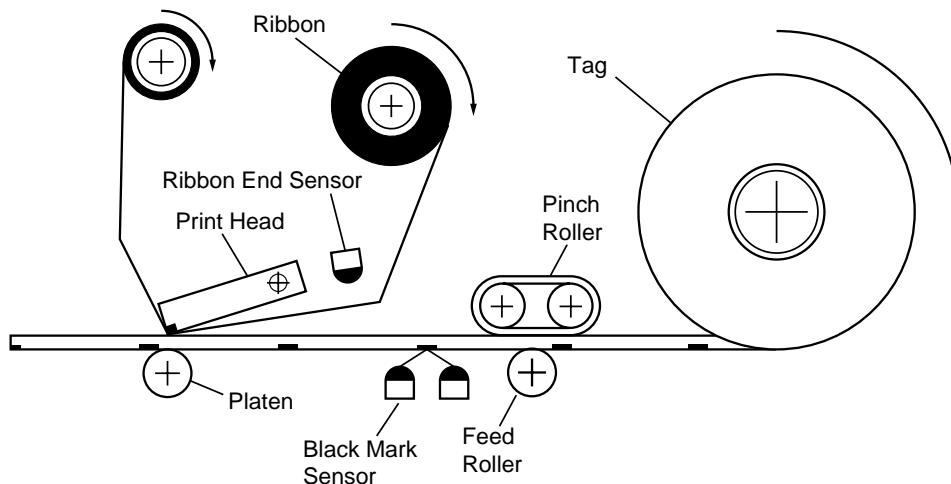
- (1) Horizontal line (2) Vertical line (3) Slant line (4) Square (5) Rounded Rectangle (6) Circle

16) Line Width 0.1 to 0.9 mm can be specified (in unit of 0.1 mm)

17) Mechanism

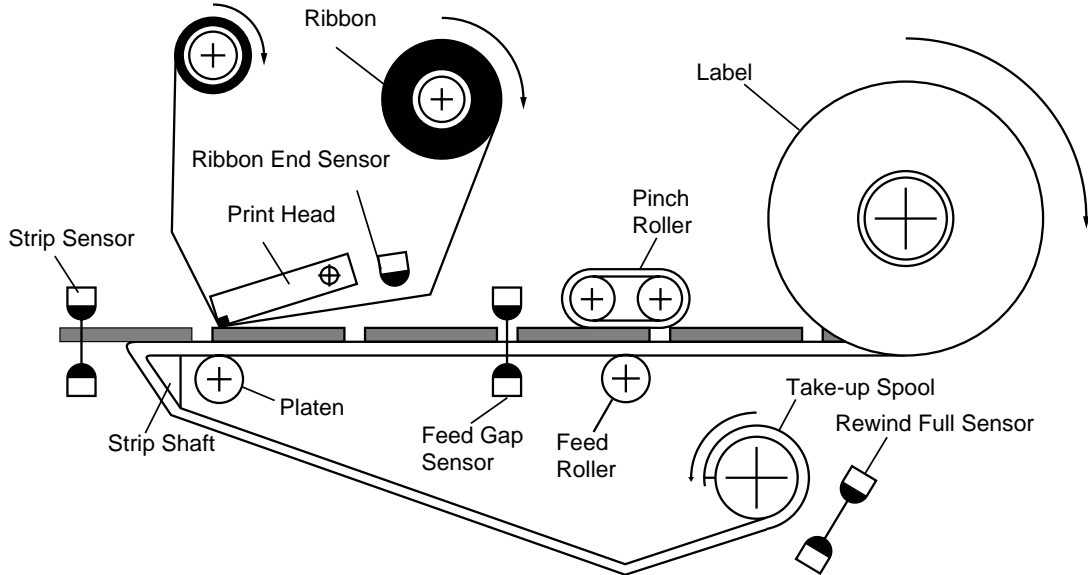
(1) Batch mechanism

This is the standard mechanism which lets the printer print continuously without winding the label or tag paper.



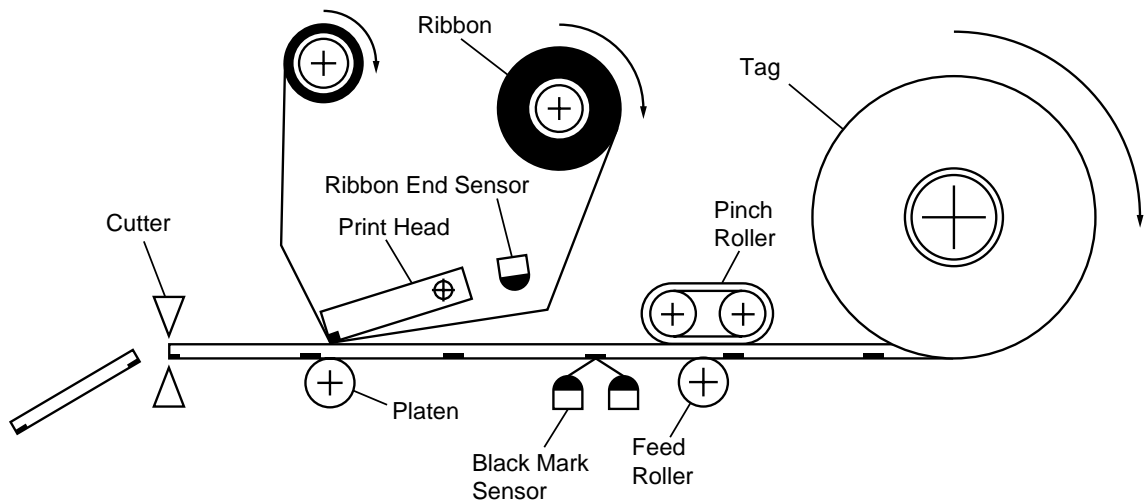
(2) Strip mechanism

When the strip module is attached, labels are stripped from the backing paper by the strip shaft. The next label will not be printed until the preceding label is taken away. The backing paper is wound onto the take-up spool. By installing the rewinder guide plate the tag paper and label can be wound onto the take-up spool.



(3) Auto cut mechanism

When the cutter module is installed, the backing paper of the label stock or tag paper is cut individually (stop and cut).



18) Power supply

QQ model: AC100 ~ 120 V \pm 10%, 50/60Hz

QP model: AC220 ~ 240 V \pm 10%, 50Hz

19) Current consumption

	QQ model	QP model
Printing	133 W, 1.6A	134W, 1.0A
Stand-by	14W, 0.18A	14W, 0.13A

20) Rush current

QQ model: 11A

QP model: 14A

1.5 ELECTRONICS SPECIFICATIONS

1) CPU HD6417709SF100B

2) Memory

(1) Program 4MB Flash ROM

(2) Backup 512 byte EE-PROM

(3) Image buffer + Work 8MB SD-RAM

3) Interface

(1) RS-232C interface

① Communication mode: Full-duplex

② Transmission speed: 2400,4800,9600,19200, 38400, 115200 BPS (selectable)

③ Synchronization: start-stop synchronization

④ Transmission parameter

■ Parity: None, EVEN, ODD

■ Start bit: 1-bit

■ Stop bit: 1-bit or 2-bit

■ Word length: 7-bit or 8-bit

⑤ Error detection

■ Parity check: VRC (Vertical Redundancy Checking)

■ Framing error: This error occurs when no stop bit is found in the frame specified starting with the start bit.

⑥ Data entry code: ASCII, 8-bit code for European characters, 8-bit code for graphic

⑦ Receiving buffer: 1MB

⑧ Protocol

■ XON/XOFF (DC1/DC3) protocol

- When initialized after power on, this printer becomes ready to receive data and sends an XON code (11H). (Transmission or non-transmission of XON code is selectable by means of the parameter setting.)
- The printer sends an XOFF code (13H) when the free area in the receive buffer becomes 10K Bytes or less.
- The printer sends an XON code (11H) when the free area in the receive buffer are 512KB or more.
- When there is no free area in the receive buffer, the printer discards received data which exceeds the receive buffer capacity without storing it in the buffer. (After detecting the XOFF code, the host computer must stop transmission before the printer receive buffer becomes full.)
- The printer sends an XOFF code (13H) at power off time. (Transmission or non-transmission of XOFF code is selectable with the parameter setting.)
- The DTR signal is always "High" level (Ready).
- The RTS signal is always "High" level (Ready).

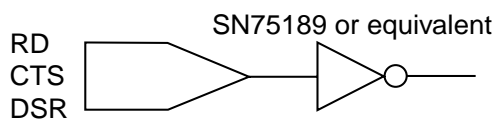
- **READY/BUSY (DTR) protocol**
 - When initialized after power on, this printer becomes ready to receive data and converts the DTR signal to "High" level (READY).
 - The printer converts the DTR signal to "Low" level (BUSY) when the free area in the receive buffer amount to 10K bytes or less.
 - The printer converts the DTR signal to "High" level (READY) when the free area in the receive buffer amount to 512KB or more.
 - When there is no free area in the receive buffer, the printer discards received data which exceeds the receive buffer capacity without storing it in the buffer. (After detecting a BUSY signal, the host computer must stop transmission before the printer receive buffer becomes full.)
 - The RTS signal is always "High" level.
 - **XON/XOFF (DC1/DC3) protocol + READY/BUSY (DTR) protocol**
 - When initialized after power on, this printer becomes ready to receive data and converts the DTR signal to "High" level (READY). The printer sends an XON code (11H).
 - When the free area in the receive buffer are 10K bytes or less, the printer converts the DTR signal to "Low" level (BUSY) and sends an XOFF code (13H).
 - When the free area in the receive buffer are 512KB or more, the printer converts the DTR signal to "High" level (READY) and sends an XON code (11H).
 - When there is no free area in the receive buffer, the printer discards received data which exceeds the receive buffer capacity without storing it in the buffer. (After detecting the XOFF code or BUSY signal, the host computer must stop transmission before the printer receive buffer becomes full.)
 - The printer sends an XOFF code (13H) at power off time.
 - The RTS signal is always "High" level.
 - **READY/BUSY (RTS) Protocol**
 - When initialized after power on, this printer becomes ready to receive data and converts the RTS signal to "High" level (READY).
 - The printer converts the RTS signal to "Low" level (BUSY) when the free area in the receive buffer amount to 10K bytes or less.
 - The printer converts the RTS signal to "High" level (READY) when the free area in the receive buffer amount to 512KB or more.
 - When there is no free area in the receive buffer, the printer discards received data which exceed the receive buffer capacity without storing it in the buffer. (After detecting a BUSY signal, the host computer must stop transmission before the printer receive buffer becomes full.)
 - The DTR signal is always "High" level (READY).
 - The host should keep the DSR signal "High" level.
- NOTE:** *Be sure to select the READY/BUSY (RTS) protocol when controlling the flow between the Windows. Also, be sure to select "Hardware" for the flow control in the Windows communication port setting.*

⑨ Pin description

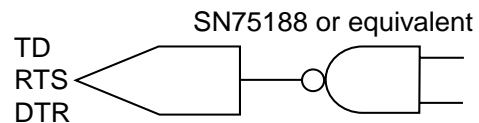
Pin No.	Signal	I/O	Description
1	FG (Frame Ground)	---	Ground line for circuit protection.
2	RD (Received Data)	Input	Data line from which the printer receives data from the host (receive data line). Logic "1" is "Low", and "0" is "High". It is LOW (MARK) while no data is being sent.
3	TD (Transmit Data)	Output	Data line from which the printer sends data to the host (send data line). Logic "1" is "low", and "0" is "High". It is LOW (MARK) while no data is being sent.
4	CTS (Clear to Send)	Input	Input signal from the host. This printer ignores this signal.
5	RTS (Request to Send)	Output	Output signal to the host. When READ/BUSY (RTS) protocol is selected, this signal means READY to receive data. When the receive buffer is nearly full, the signal turns to "Low", and "High" when nearly empty. In case of other protocol is selected, this signal is always "High" level after the power is turned on.
6	DTR (Data Terminal Ready)	Output	Output signal from the printer. When READY/BUSY (DTR) or XON/XOFF (DC1/DC3)+READY/BUSY (DTR) is selected, this signal means READY to receive data. When the receive buffer is nearly full, the signal turns to "Low", and "High" when nearly empty. In case of XON/XOFF (DC1/DC3) or READY/BUSY (RTS), this signal is always "High" level after the power is turned on.
7	SG (Signal Ground)	---	Ground line for all data and control signals.
20	DSR (Data Set Ready)	Input	Input signal from the host. It must be "High" for the printer to receive data.

⑩ Interface circuit

■ Input circuit



■ Output circuit



■ Signal level

Input voltage: "H" .. +3V ~ +15V
 "L" ... -3V ~ -15V

Output voltage: "H" .. +6V ~ +13V
 "L" ... -6V ~ -13V

(2) Centronics interface

- ① Data input method: 8-bit parallel (DATA 1~8)
- ② Control signals
 Compatibility mode: nStrobe, nAck, Busy, PError, Select, nAutoFd, nInit, nFault, nSelectIn
 ECP mode: HostClk, PeriphClk, PeriphAck, nAckReverse, XFlag, HostAck, nReverseRequest, nPeriphRequest, IEEE1284Active
- ③ Data input code: ASCII, JIS 8-bit code for European characters, 8-bit code for graphic
- ④ Receiving buffer: 1MB
- ⑤ Input/Output circuit configuration and Input/Output conditions

Type	Signal Name	Configuration
Input/Output	Data 1 ~ 8	
Input	nStrobe/HostClk nInit/nReverseRequest nAutoFd/HostAck nSelectIn/IEEE1284Active	
Output	Busy/PeriphAck nFault/nPeriphRequest nAck/PeriphClk Select/XFlag PError/nAckReverse	

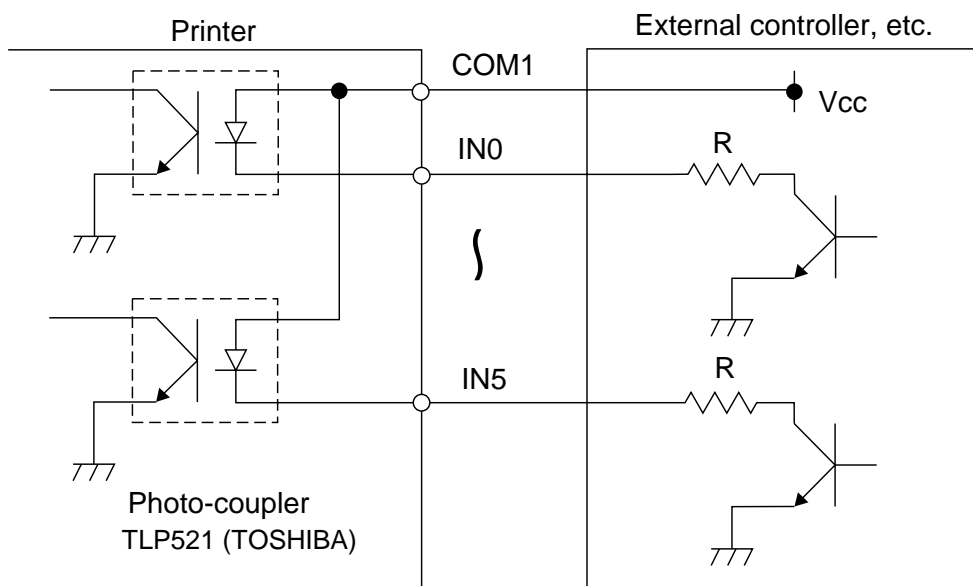
Logical level (input)
 "1" = 2~5V
 "0" = 0~0.4V

Logical level (input)
 "1" = 2.4~5V
 "0" = 0~0.4V

(3) Expantion I/O interface (Option)

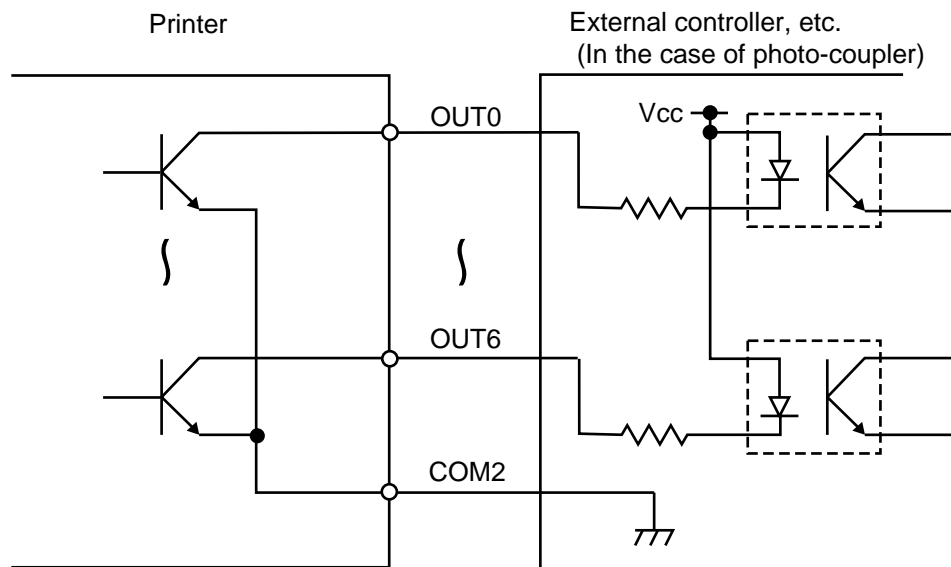
Interface circuit

■ Input circuit



There are six input circuits, and each input is a current loop using a photo-coupler. The anode of the photo-coupler is connected to common pin COM1 in each of the six circuits. Each cathode is independent. The voltage of Vcc is 24 V (max.) while the diode operating current is 16 mA.

■ Output circuit



There are seven output circuits, and each output is an open collector. The voltage of Vcc is 24V (max.) while the operating current is 150 mA. For other details, please refer to the Expansion I/O specifications.

(4) USB

- | | |
|------------------|---------------------------------|
| ① Standard: | Conforming to Rev. 1.1 |
| ② Transfer type: | Control transfer, Bulk transfer |
| ③ Transfer rate: | Full speed (12M bps) |

(5) Network interface (LAN, PCMCIA)

- | | |
|---------------------------|--|
| ① Constitution: | <ul style="list-style-type: none"> • PCMCIA Board + LAN card • 10 Base-T or 100 Base-TX LAN board |
| ② Protocol: | TCP/IP |
| ③ Network specifications: | <ul style="list-style-type: none"> • LPR server function • WEB printer function • Socket communication function • FTP server function • E-mail function |

4) Sensor/switch

(1) Head up sensor (Transmissive sensor)

This sensor, located on the left front of the printer inside as viewed from the media outlet, detects whether the print head is in position or not. When the head lever is turned to the Free position, the arm on the edge of the head lever shaft turns the sensor on.

(2) Head block position switch (Transmissive sensor)

This sensor, located on the left side of the print head block, detects whether the print head block is in position or not. According to the position of the print head block, the arm on it turns the sensor on/off.

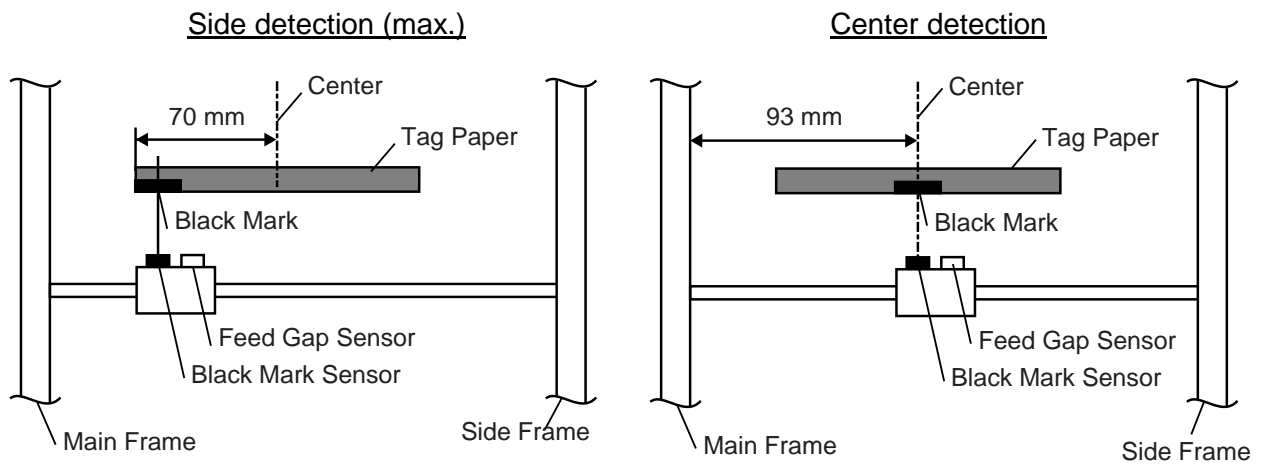
(3) Media sensor

This sensor is comprised of the black mark sensor and feed gap sensor. It is positioned 92.1 mm from the platen.

The sensor position is adjustable according to the black mark position. It can be manually moved from the center to the left edge of media.

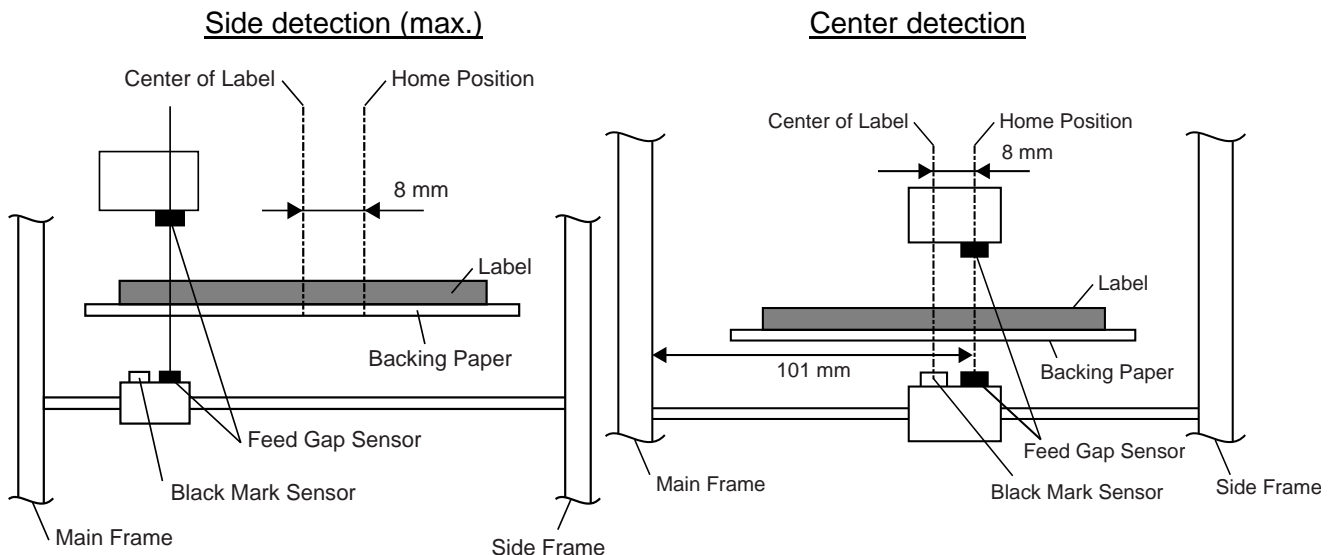
■ Black mark sensor (Reflective sensor)

This sensor detects the difference of potential between the black mark and tag paper to find the print position of the tag paper.



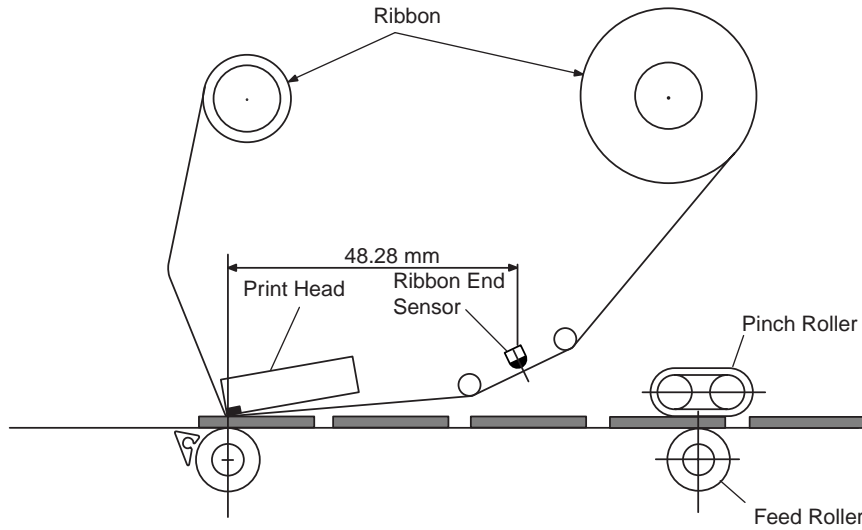
■ Feed gap sensor (Transmissive sensor)

This sensor detects the difference in potential between the backing paper and the label to find the print position of the label. The feed gap sensor is located at 8 mm to the right of the black mark sensor.



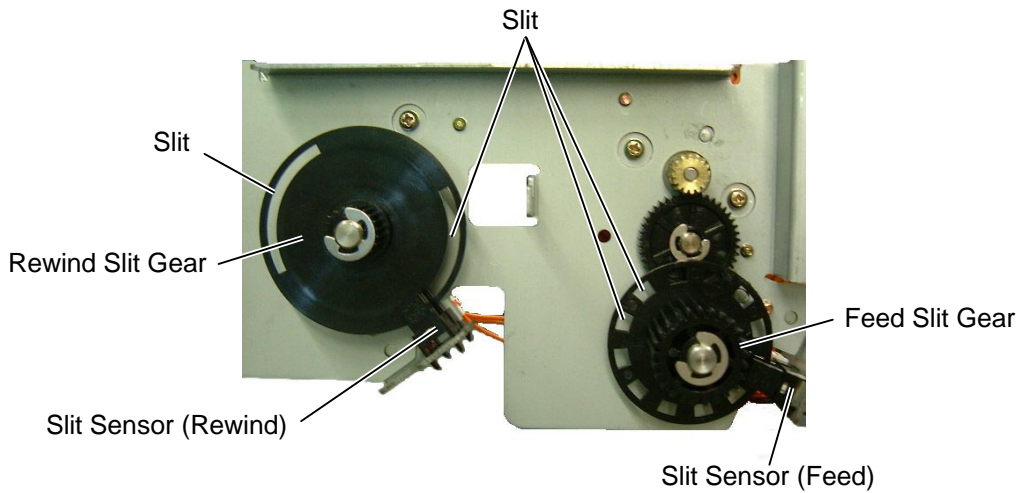
(4) Ribbon end sensor (Transmissive sensor)

When printing in thermal transfer mode (using the ribbon), this sensor detects the difference in potential between the ribbon and the ribbon end to indicate the ribbon end. It is positioned at 48.28 mm from the platen.



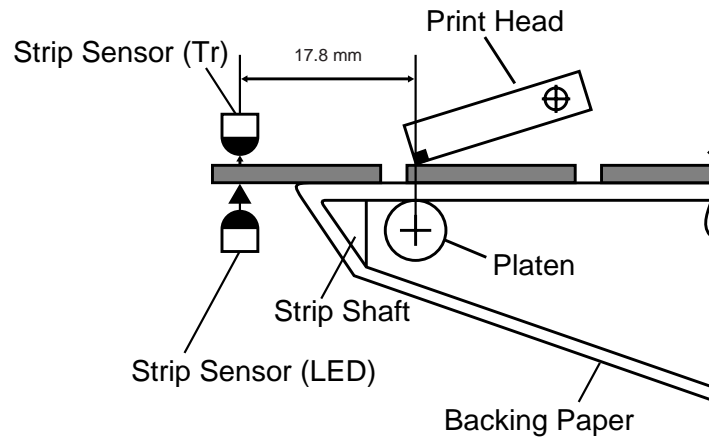
(5) Slit sensor (Transmissive sensor)

This sensor detects the rotation count of the ribbon shaft and the ribbon motors. The ribbon motors torque works to take up slack in the ribbon and is dependent on the detected count. The slit sensor is a photo coupler combining an LED and a transistor.



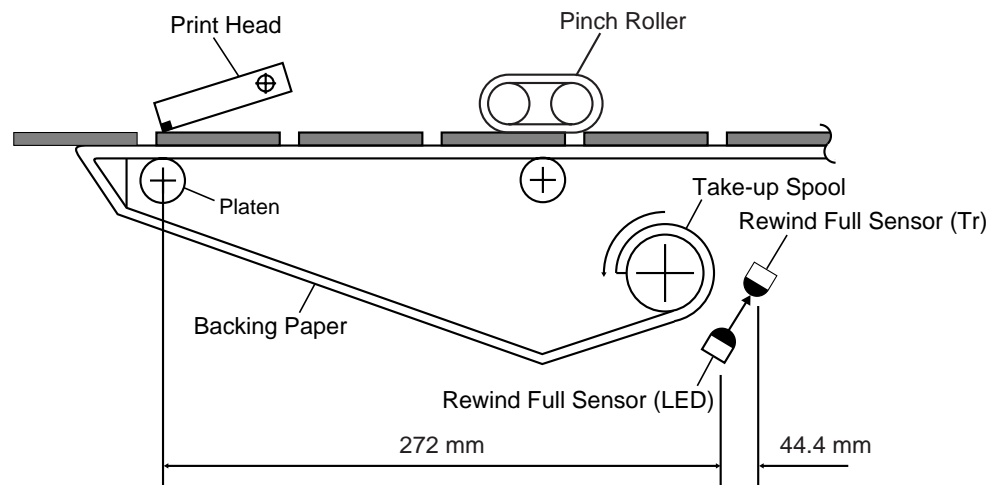
(6) Strip sensor (Transmissive sensor)

This sensor detects whether or not the label has been taken away from the media outlet and controls the label feed. It is positioned 17.8 mm from the platen.



(7) Rewind full sensor (Transmissive sensor)

This sensor detects that the built-in rewriter is full when winding backing paper or printed media onto the take-up spool. It is positioned at 316.4 mm (Tr side) and 272 mm (LED side) from the platen. A rewriter full status is detected when the backing paper blocks the light from the LED.



(8) Cutter home position switch (micro switch) for Swing Cutter

A cam positioned at the end of the cutter motor arm turns the micro switch on/off in accordance with the cutter motion cycle (one rotation). The micro switch status indicates if the cutter is in the home position.

2. SUPPLY SPECIFICATIONS

Information regarding the supply specifications contained in Product Description is essential to service engineers. Detail specifications and other information on the media and ribbon are described in Supply Manual by model. It is issued by and sent from TOSHIBA TEC H.Q (Sales Division) upon release of new model or manual's revision. When purchasing the supplies locally, be sure to refer to the Supply Manual for details. Use of non-specified media may shorten the print head life and result in problems with bar code readability or print quality. Be sure to read carefully and understand the Supply Manual since it also includes the details about notes, precision of the print start position, limitations on printing, etc. When selling the products to VARs, instruct them to buy media and ribbons that the substances described in the following precautions are not included

2.1 MEDIA

(Unit: mm)

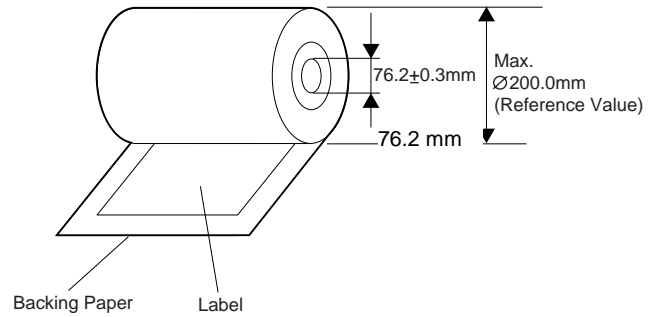
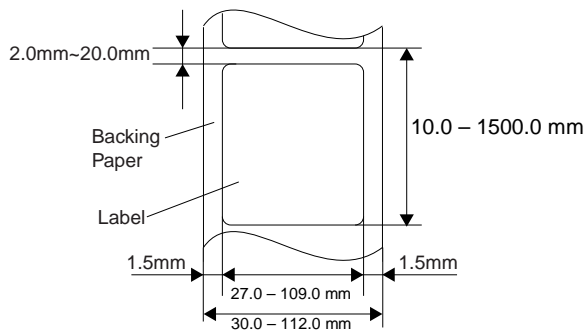
Item	Label dispensing mode	Batch mode	Strip mode	Cut mode	
				Rotary cutter (*2)	Swing cutter
Media pitch	Label	10.0 – 1500.0	25.4 – 1500.0	3"/sec., 6"/sec.: 38.0 - 1500.0	38.0 – 1500.0
	Tag	10.0 – 1500.0	----	3"/sec., 6"/sec.: 30.0 – 1500.0	25.4 – 1500.0
Media length		8.0 – 1498.0	23.4 – 1498.0	3"/sec., 6"/sec.: 25.0 – 1498.0	25.0 – 1498.0(*1)
Width including backing paper (See NOTE 5.)		30.0 – 112.0	50.0 – 112.0	30.0 – 112.0	
Label width (See NOTE 5.)		27.0 – 109.0	47.0 – 109.0	27.0 – 109.0	
Gap length		2.0 – 20.0		6.0 – 20.0	
Black mark length (Tag paper)		2.0 – 10.0			
Effective print width		10.0 – 104.0±0.2			
Effective print length	Label	6.0 – 1496.0	21.4 – 1496.0	3"/sec., 6"/sec.: 23.0 - 1496.0	23.0 – 1496.0
	Tag	8.0 – 1498.0	----	3"/sec., 6"/sec.: 28.0 – 1498.0	23.0 – 1498.0
Print speed up/slow down area		1.0			
Thickness	Label	0.13 – 0.17			
	Tag	0.15 – 0.29			
Max. effective length for on the fly issue		1361.0			
Maximum outer roll diameter		Ø200 (See NOTE 9.)			
Roll direction		Inside			
Inner core diameter		Ø76.2±0.3			

NOTES:

- To ensure print quality and print head life use only TOSHIBA TEC specified media.
- The media length specifications for use of the cutter are:
 - *1: When issuing a label using the swing cutter, label length should be 35.0 mm – (Gap length/2).
 - *2: The rotary cutter does not support the print speed of 10"/sec.
- When marking black marks on the label rolls, they should be marked at the gaps.
- "On the fly issue" means that the printer can feed and print without stopping between labels.
- There are restrictions in use of the media which is narrower than 50 mm. For details, refer to TOSHIBA TEC Head Quarters.
- When perforating the media, it should be done from the print side to the reverse side.
- The reflectance of the black mark should be 10% or less when the wavelength is 950nm.
- The label length should be at least three times as long as the gap.
- When taking up the printed media onto the take-up spool in batch mode, the outer roll diameter must not exceed 180mm.
- When cutting the thermal label, secure a gap of 6 mm or more, and cut in the middle of the gap.
- For the backing paper Glassine paper 7K white or equivalent should be used. Also, the light transmission rate of the backing paper should be 22% or above.
- Ink used for pre-printing the media should not contain hard substances such as carbonic calcium (CaCO₃) and Kaolin (Al₂O₃, 2SiO₂, 2H₂O).
- Thermal paper used for the direct thermal printing must not have the specifications which exceed Ca²⁺, K⁺, Na⁺ 800 ppm, K⁺ 250 ppm, and Cl⁻ 500 ppm.
- Avoid using media containing SiO₂ or talc which wears the print head protection layer.

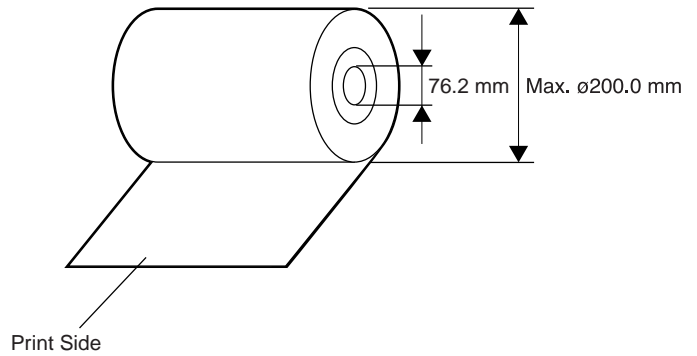
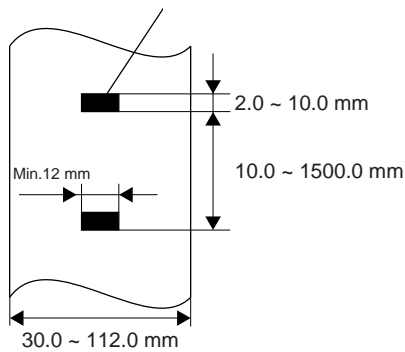
1) Label

< Design >



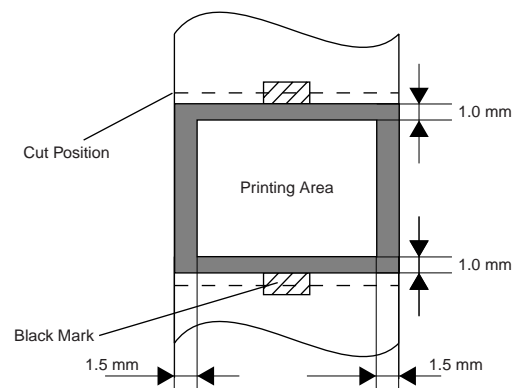
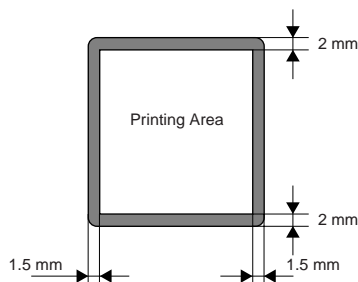
2) Tag paper

Black mark or Square holes
(Round holes are not acceptable.)



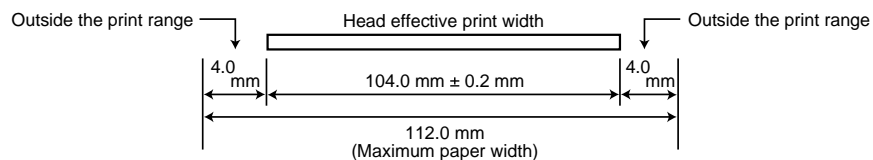
NOTE: The reflection rate of the black mark is 10% or less at wavelength of 950nm. A square hole can substitute for the black mark. When the square hole is used, no printing is allowed on the black side.

< Non Print Area >



NOTE: Max effective print area is 104.0 mm (W) x 1498.0 mm (L).

3) Relationship between the head effective print width and paper.

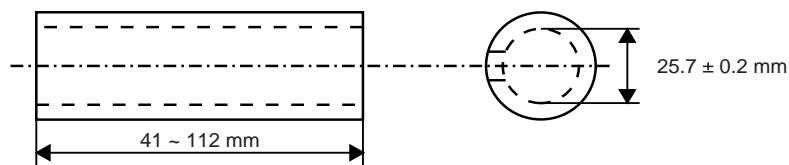


2.2 RIBBON

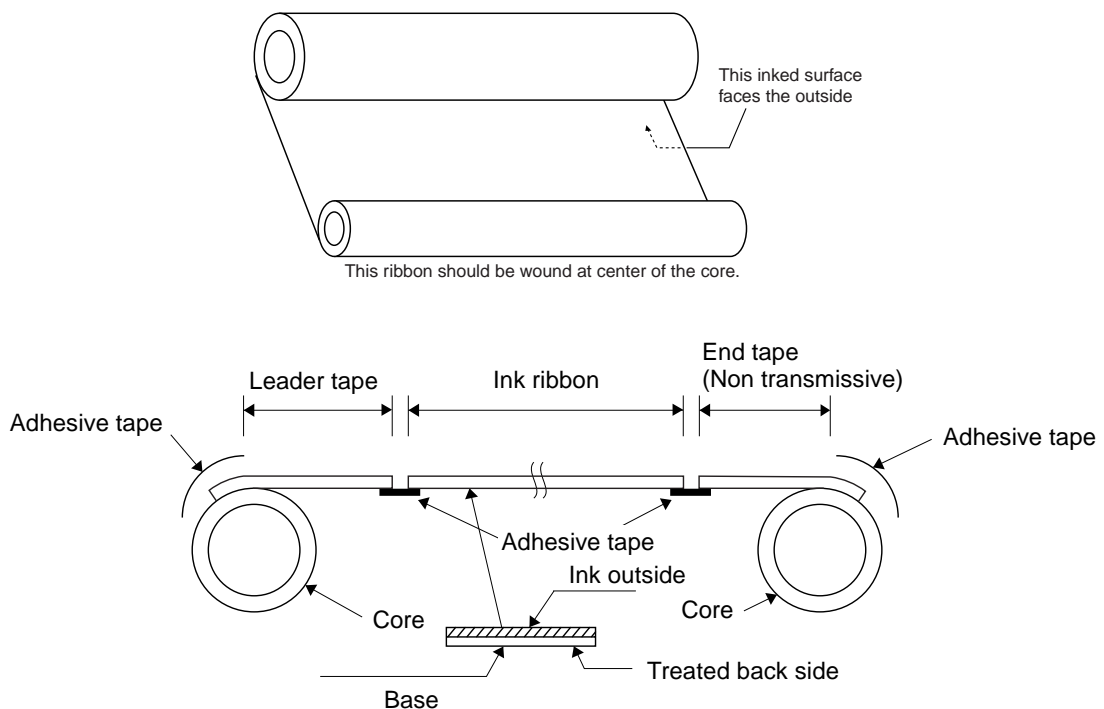
No.	Item	Specification	
1	Shape	Spool type	
2	Width	41 ~ 112 mm	
3	Max. length	600 m	
4	Max. OD	ø 90 mm	
5	Back treatment	Coated	
6	Core	Material	Cardboard
		Shape	See the following figures.
7	Leader tape	Polyester film (Opaque), 300 ± 5 mm long	
8	End tape	Polyester film (Opaque), 250 ± 5 mm long	
9	Winding method	The ink side faces outside of ribbon winding	

- NOTES:**
1. To ensure print quality and print head life use only TOSHIBA TEC specified ribbons.
 2. To avoid ribbon wrinkles use a ribbon which is wider than the media by 5 mm or more. However, too much difference in width between the two may cause wrinkles.
 3. You can use a ribbon that is narrower than the media by 5 mm or more, however, this makes the print area narrower.
 4. When using a 112 mm wide media, be sure to use a 108 mm wide ribbon. Use of other ribbons may cause ribbon wrinkles.

Ribbon width	41 mm	50 mm	68 mm	84 mm	112 mm
Proper media width	30 to 36 mm	36 to 45 mm	45 to 63mm	63 to 79 mm	71 to 112mm



NOTE: When purchasing ribbon locally, they must meet the above size. There may be TOSHIBA TEC-approved ribbons which do not fall within the above size, however, they have no functional problem.



2.3 CARE AND HANDLING OF THE MEDIA AND RIBBON

CAUTION!

Be sure to read carefully and understand the Supply Manual. Use only media and ribbon which meet specified requirements. Use of non-specified media and ribbon may shorten the head life and result in problems with bar code readability or print quality. All media and ribbon should be handled with care to avoid any damage to the media, ribbon or printer. Read the following guideline carefully.

- Do not store the media and ribbon for longer than the manufactures recommended shelf life.
- Store media rolls on the flat end, do not store them on the curved sides as this might flatten that side causing erratic media advance and poor print quality.
- Store the media in plastic bags and always reseal after opening. Unprotected media can get dirty and the extra abrasion from the dust and dirt particles will shorten the print head life.
- Store the media and ribbon in a cool, dry place. Avoid areas where they would be exposed to direct sunlight, high temperature, high humidity, dust or gas.

For further information please contact your local distributor or your media and ribbon manufacturer.

3. OPTIONAL KIT

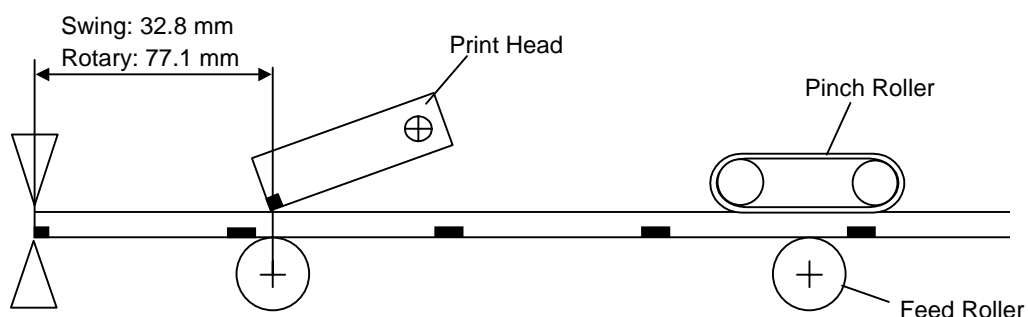
Option Name	Type	Use
Swing cutter module	B-4205-QM	This cutter module uses a swing or rotary cutter. It cuts backing paper of labels and tag paper automatically in "Stop and cut" mode.
Rotary cutter module	B-8204-QM	
Strip module	B-9904-H-QM	This strip module strips the label from the backing paper with the take-up block and strip block. When the rewinder guide plate is attached, the tag paper and label with backing paper are wound.
Ribbon saving module	B-9904-R-QM	The ribbon saving module moves the print head up and down by using a solenoid to save the ribbon loss as far as possible.
PCMCIA interface board	B-9700-PCM-QM	This board enables use of the following PCMCIA cards. LAN card: 3 COM EtherLink® III (recommended) ATA card: Conforming to PC card ATA standard Flash memory card: 1MB and 4MB card
Expansion I/O interface board	B-7704-IO-QM	Installing this board allows connection to external devices.
Built-in LAN interface board	B-9700-LAN-QM	This board enables the printer to be used in a LAN network.
USB interface board	B-9700-USB-QM	Installing this board enables a connection with a PC which has a USB interface.

NOTE: To purchase the optional kits, please contact the TOSHIBA TEC Head Quarters.

3.1 CUTTER MODULE: B-4205-QM (Swing Cutter), B-8204-QM (Rotary Cutter)

This compact cutter module uses a built-in swing/rotary cutter. The specification is provided below:

Cutter Type	B-4205-QM	B-8204-QM
Cut method	Stop and cut	Rotary cutter
Media width	30 mm to 112.0 mm	
Media length	Tag	25.4 mm to 1500 mm
	Label	38.0 mm to 1500 mm
Media thickness	Tag	0.15 to 0.29 mm
	Label	0.13 to 0.17 mm
Cutter life	300000 cuts (0.274-mm thick tag paper) 1000000 cuts (0.160-mm thick tag paper)	
Home position detection	Micro switch	Photo coupler



3.2 STRIP MODULE: B-9904-H-QM

This strip module consists of the take-up block and the strip block. Installing the strip module enables the printer to not only remove labels from the backing paper, but wind the tag paper or label with backing paper onto the take-up spool by using the rewinder guide plate. The rewind full sensor is provided to detect the overflow if the wound tag paper or label exceeds the specified amount is provide.

3.3 RIBBON SAVING MODULE: B-9904-R-QM

By moving the print head up and down with a solenoid, the ribbon saving module saves loss of the ribbon as far as possible. It is small enough to be put into the print block.

3.4 PCMCIA INTERFACE BOARD: B-9700-PCM-QM

The PCMCIA Interface board allows use of the following ATA card, LAN card, or flash memory card when connected to the CPU PC board.

- Number of slots: Type II slot - 2 slots

Type	Maker	Description	Remarks
ATA Card	San Disk, Hitachi	A card conforming to the PC card ATA standard	-----
LAN Card	3 COM	3CCE589ET Series	Install into the slot (2) only. (This card installed into the slot (1) will not work.)
Flash Memory Card (4 MB)	Maxell	EF-4M-TB [CC]	Read/Write
	Maxell	EF-4M-TB [DC]	
	Centennial Technologies INC.	FL04M-15-11119-03	Read (See NOTE.)
	INTEL	IMC004FLSA	
	Simple TECHNOLOGY	STI-FL/4A	
	Mitsubishi	MF84M1-G7DAT01	
	PC Card KING MAX	FJN-004M6C	
	Centennial Technologies Inc.	FL04M-20-11138-67	
	PC Card	FJP-004M6R	
	Mitsubishi	MF84M1-GMCAV01	
Flash Memory Card (1 MB)	Maxell	EF-1M-TB [AA]	
	Mitsubishi	MF81M1-GBDAT01	

NOTE: Reading a read-only-type flash memory is possible if it has been used on the TOSHIBA TEC printer, such as B-472 and B-572.

3.5 EXPANSION I/O INTERFACE BOARD: B-7704-IO-QM

This interface board is used to connect the printer to external devices, such as a labeler. The input/output signals from the connected external devices can control label feeding or printing and indicate the print status.

3.6 BUILT-IN LAN INTERFACE BOARD: B-9700-LAN-QM

This board enables the printer to connect to the host by means of Local Area Network.

- Supporting 10/100M bps
- Internal 32 bit wide data pass (for the packet buffer memory)
- Conforming to IEEE 802.3/802.3u, 100 Base-Tx/10Base-T physical layer
- Auto negotiation: 10/100M bps, Full/Half Duplex

3.7 USB INTERFACE BOARD: B-9700-USB-QM

Installing this board enables a connection to a PC which has a USB interface.

- Conforming to USB 1.1
- Supporting Full-speed (12M bps) transmission
- Supporting the two types of data transmission types, Control transmission and Bulk transmission.