CITIZEN
Micro HumanTech

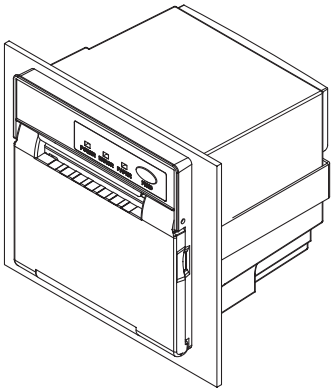
LINE THERMAL PRINTER

MODEL

CT-P290/CT-P291

CT-P292/CT-P293

Quick Start Guide



CITIZEN SYSTEMS JAPAN CO., LTD.

6-1-12, Tanashi-cho, Nishi-Tokyo-shi Tokyo, 188-8511, Japan
Tel: +81 (0) 424 68 4608 Fax: +81 (0) 424 68 4687
http://www.citizen-systems.co.jp

ZH74904-20F
1.20E-1202

GENERAL PRECAUTIONS

- Before using this product, be sure to read through this manual. After having read this manual, keep it in a safe, readily accessible place for future reference.
- The information contained herein is subject to change without prior notice.
- Reproduction or transfer of part or all of this document in any means is prohibited without permission from Citizen Systems.
- Note that Citizen Systems is not responsible for any operation results regardless of missing, error, or misprinting in this manual.
- Note that Citizen Systems is not responsible for any trouble caused as a result of using options or consumables that are not specified in this manual.
- Except explained elsewhere in this manual, do not attempt to service, disassemble, or repair this product.
- Note that Citizen Systems is not responsible for any damage attributable to incorrect operation/handling or improper operating environments that are not specified in this manual.
- Data is basically for temporary use and not stored for an extended period of time or permanently. Please note that Citizen Systems is not responsible for damage or lost profit resulting from the loss of data caused by accidents, repairs, tests or other occurrence.
- If you find loss of information, error, or uncertain matter, please contact your Citizen Systems dealer.

PRECAUTIONS ON PRINTER INSTALLATION

⚠ WARNING

■ Do not use or store this product in a place where it will be exposed to:
  * Flames or moist air.
  * Direct sunlight.
  * Hot airflow or radiation from a heating device.
  * Salty air or corrosive gases.
  * Ill-ventilated atmosphere.
  * Chemical reactions in a laboratory.
  * Airborne oil, steel particles, or dust.
  * Static electricity or strong magnetic field.

• **Neglecting these warnings may result in printer failure, overheating, emission of smoke, fire, or electric shock.**



■ Do not drop any foreign object nor spill liquid into the printer. Do not place any object on the printer either.
■ Do not drop any metallic object such as paper clip, pin or screw into the printer.
■ Do not place a flower vase, pot or cup containing water on the printer.
■ Do not spill coffee, soft drinks or any other liquid into the printer.
■ Do not spray insecticide or any other chemical liquid over the printer.

• **A metallic foreign object, if accidentally dropped into the printer, may cause printer failure, fire, or electric shock. Should it occur, immediately turn the printer off, unplug it from the supply outlet, and call your local Citizen Systems dealer.**



Do not handle the printer in the following ways:
■ Do not allow the printer to sustain strong impacts or hard jolts (e.g., trampling, dropping, striking with a hard edge).
■ Never attempt to disassemble or modify the printer.

• **Neglecting to handle properly may result in printer failure, overheating, emission of smoke, fire, or electric shock.**


■ Install, use, or store the printer out of the reach of children.

• **Electric appliances could cause an unexpected injury or accident if they are handled or used improperly.**
• **Keep the power cord and signal cables out of the reach of children. Also children should not be allowed to gain access to any internal part of the printer.**
• **The plastic bag the printer came in must be disposed of properly or kept away from children. Wearing it over the head may lead to suffocation.**

PRECAUTIONS IN HANDLING THE PRINTER

⚠ WARNING

Please observe the following precautions for power source and power cord:

■ Do not plug or unplug the power cord with a wet hand.

■ Use the printer only at the specified supply voltage and frequency.

■ Use only the specified AC adapter with the printer.

■ Check to make sure that the supply outlet from which the printer is powered has a sufficient capacity.

■ Do not supply the printer from a power strip or current tap shared with other appliances.

■ Do not plug the power cord into a supply outlet with dust or debris left on its plug.

■ Do not use a deformed or damaged power cord.

■ Do not move the printer while the printer power is on.

• **Neglecting to handle properly may result in printer failure, emission of smoke, fire, or electric shock.**

• **An overload may cause the power cord to overheat or fire or the circuit breaker to trip.**

■ Do not allow anything to rest on the power cord. Do not place the printer where the power cord will be trampled on.

■ Do not use or carry the printer with its power cord bent, twisted, or pulled.

■ Do not attempt to modify the power cord unnecessarily.

■ Do not lay the power cord in the neighbor of a heating device.

• **Neglecting these cautions may cause wires or insulation to break, which could result in leakage, electric shock, or printer failure. If the power cord sustains damage, contact your Citizen Systems dealer.**

■ Do not leave things around the supply outlet.

■ Supply power to the printer from a convenient wall outlet, readily accessible in an emergency.

• **The printer may not be immediately shut down in an emergency.**

■ Insert the power plug fully into the outlet.

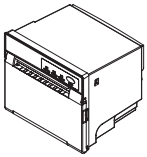
■ If the printer will not be used for a long time, leave it disconnected from its supply outlet.

■ Hold the plug and connector when plugging or unplugging the power cord or signal cable after turning off the printer and the appliance connected to it.

1 Unpacking

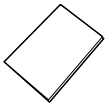
When unpacking the printer, confirm that the following are provided:

- Printer: 1
- Sample paper roll: 1 roll
- Quick start guide (This Manual) : 1
- Wiring cable: 1
- Ferrite core: 1
- Mounting attachment: 1
- Screws for fixing mounting attachment: 2
- Wire clamp: 1
- CD-ROM: 1
- Power connector board (DC type only): 1
- Power connector board cover (DCtype only): 1
- Screws for mounting power connector board (DC type only): 2



Printer

Sample paper roll



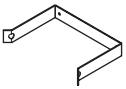
Quick start guide

(NN type)

(DC type)

Wiring cable

Ferrite core



Mounting attachment

Screws for fixing mounting attachment

Wire clamp

CD-ROM

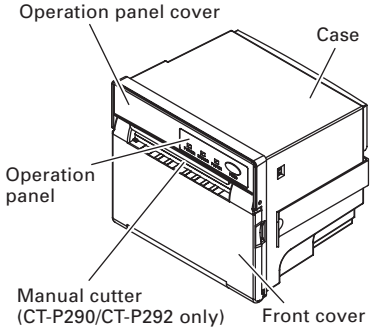
DC type only

Power connector board

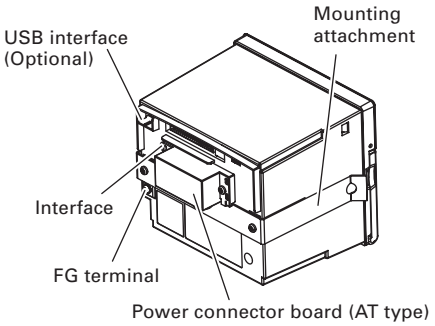
Power connector board cover

Screws for mounting power connector board

2 Printer Appearance



(Front view)



(Rear view)

●Front cover
Opened or closed in the case of paper handling, paper jam, etc.

● Manual cutter(CT-P290/CT-P292 only)
Used when cutting paper. (If the paper length is short, cutting remainder may present.)

●Case
Internal mechanism is covered with the case. Do not apply excessive force.

● Operation panel cover
Opened or closed when changing the DIP switch setting.

● Operation panel
Provides LED indication of the printer status. The FEED button allows paper feeding.

● USB interface (Optional)
Use a mini-B type connector.

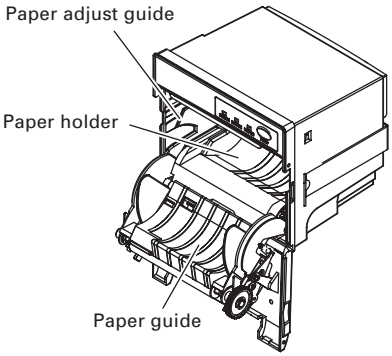
● Interface
Attached power cord and wiring cable are connected.

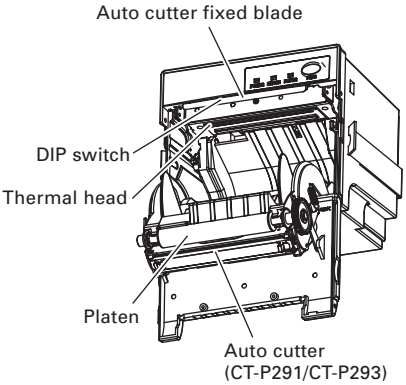
● FG terminal
The printer frame is connected to ground. Be sure to keep this wiring.

● Mounting attachment
A metal attachment for mounting the printer in a rack or the like.

● Power connector board
Used for connecting the AC adapter.

Front Cover Inside





- Paper holder
  A place where thermal paper roll is set.

- Paper adjust guide
  Adjusts this guide to meet the paper width to be set.

- Paper guide
  Thermal paper roll is set and held.

- Auto cutter fixed blade
  Used for cutting paper.

- DIP switch
  Allows various kinds of setting.

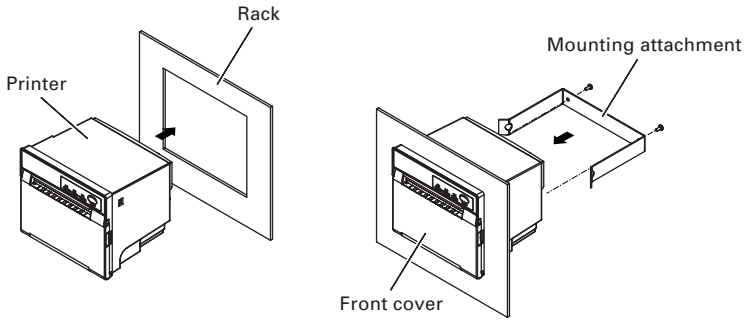
- Thermal head
  Prints characters and/or graphic data on thermal paper.

- Platen
  Feeds paper while pressing the thermal paper onto thermal head.

- Auto cutter (CT-P292/CT-P293)
  Cuts the paper with a command at the end of printing. Cutting method is selectable between partial cut and full cut with a command.

3 Mounting on Rack

1. **Insert the printer into the specified rack, etc. as shown in the following figure.**
2. **Attach the supplied mounting attachment to the printer from the rear and fix the printer with the supplied screws.**
3. **After mounting, make sure the front cover can be opened and closed normally.**
4. **Apply appropriate force when tightening the screws while paying attention to prevent deformed mounting attachment and printer case. Excessive tightening may cause not only stress on the printer but also printer failure, etc.**
5. **The mounting rack shall be about 1 to 3 mm thick.**



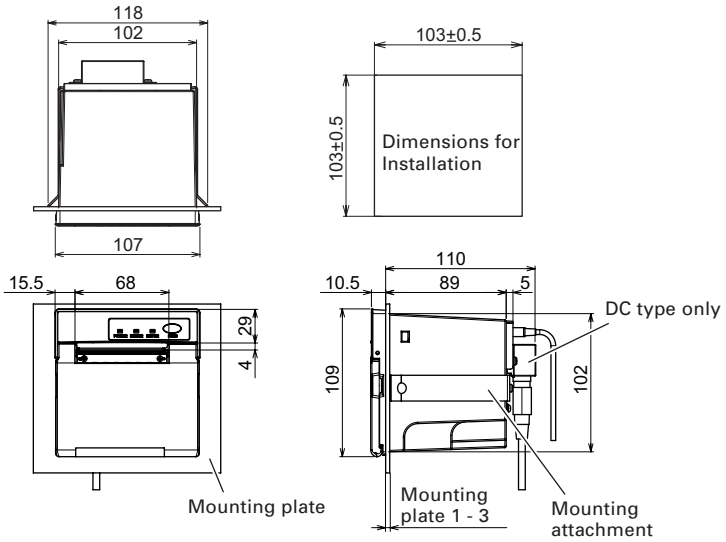
⚠ CAUTION!

■ Screws for fixing mounting attachment must not be longer than 15 mm.
■ Install the printer with its front cover set vertical.

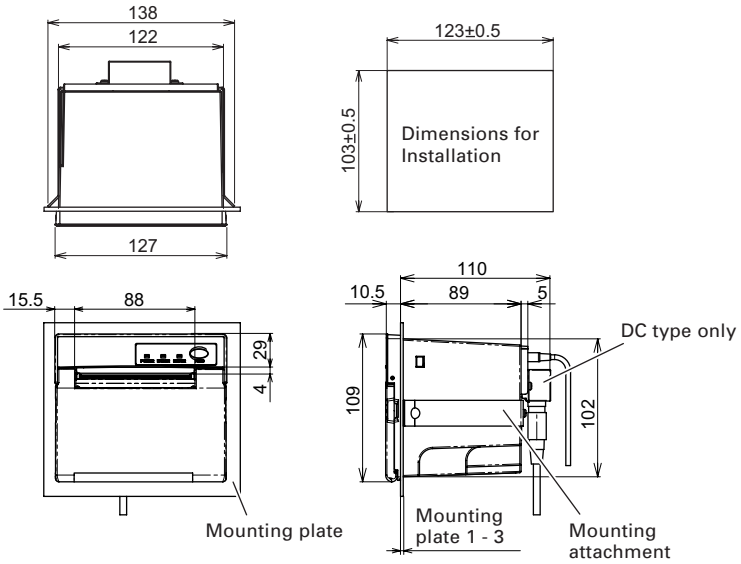
4 External Views and Dimensions

(Unit: mm)

CT-P290/CT-P291 (2 inch model)



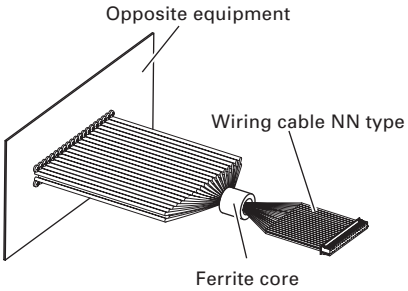
CT-P292/CT-P293 (3 inch model)



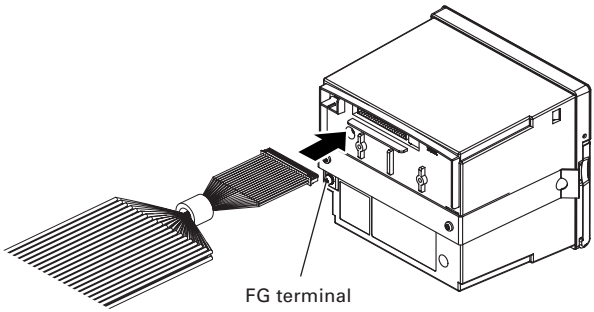
5 Connecting Power Cord and Data Cable

[In case of NN type]

1. **Make sure the power supply for the opposite equipment to be connected is OFF.**
2. **Prepare the power supply that can supply the supply voltage and current capacity designated in the specifications (DC 24 V ±10%, 1.2 to 2.1A (9A or more at peak current).**
3. **Pass ferrite cores one by one while checking the pin number of the wiring cable for connection to the opposite equipment. In case of open type ferrite core, connect it after wiring has been completed. For pin numbers, refer to "5.4 Power Supply and Interface Connector Specifications". Be sure to use the Ferrite core if you make the cable by yourself.**



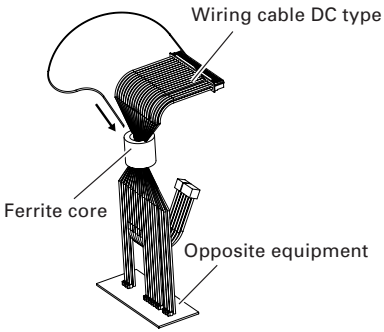
4. **After making sure the printer power is OFF, orient the connector correctly and firmly connect it to the printer.**



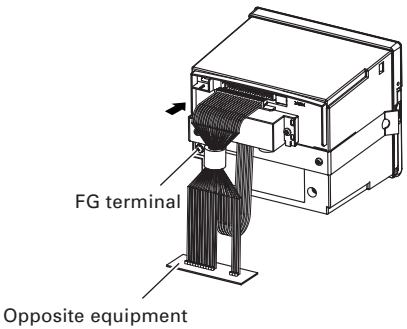
5. **Connect the printer FG terminal to ground. Be sure to make this connection to prevent noise, static charge, etc. Firmly make this connection using the terminal screw at the rear of the printer.**

[In case of DC type]

1. **Make sure the power supply for the opposite equipment to be connected is OFF.**
2. **Prepare the power supply that can supply the supply voltage and current capacity designated in the specifications ((DC 24 V ±10%, 1.2 to 2.1 A (9 A or more at peak current).**
3. **Pass ferrite cores one by one while checking the pin number of the wiring cable for connection to the opposite equipment. In case of open type ferrite core, connect it after wiring has been completed. For pin numbers, refer to "5.4 Power Supply and Interface Connector Specifications". Be sure to use the Ferrite core if you make the cable by yourself.**



4. **After making sure the printer power is off, fix the power connector board with two places screws.**
5. **Connect the power supply and the interface connector to the printer while making sure the connector is oriented correctly.**

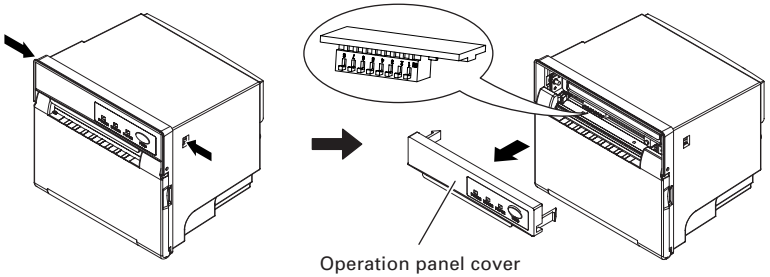


5. **Connect the printer FG terminal to ground. Be sure to make this connection to prevent noise, static charge, etc. Firmly make this connection using the terminal screw at the rear of the printer.**

6 Setting DIP Switch

To set the DIP switch, the operation panel cover must be removed.
Remove the operation panel cover by using the following procedure.

1. **Turn the printer power off.**
2. **Pressing the hooks at both sides remove the operation panel cover.**
3. **Set the DIP switch.**
4. **Return the operation panel to the former position.**
   (The printer does not operate if the operation panel is detached.)



CT-P290

Switch No.	Function	OFF	ON	Initial Settings
1	Auto cutter	Available	-	OFF
2	Interface	See Table below.		OFF
3				OFF
4	Spare	Fixed	-	OFF
5	Spare	Fixed	-	OFF
6	Print head installed	-	2 inch	ON
7	Character	Normal	Low current consumption	OFF
8	Reserved	Fixed	-	OFF

CT-P291

Switch No.	Function	OFF	ON	Initial Settings
1	Auto cutter	-	Unavailable	ON
2	Interface	See Table below.		OFF
3				OFF
4	Spare	Fixed	-	OFF
5	Spare	Fixed	-	OFF
6	Print head installed	-	2 inch	ON
7	Character	Normal	Low current consumption	OFF
8	Reserved	Fixed	-	OFF

CT-P292

Switch No.	Function	OFF	ON	Initial Settings
1	Auto cutter	Available	-	OFF
2	Interface	See Table below.		OFF
3				OFF
4	Spare	Fixed	-	OFF
5	Spare	Fixed	-	OFF
6	Print head installed	3 inch	-	OFF
7	Character	Normal	Low current consumption	OFF
8	Reserved	Fixed	-	OFF

CT-P293

Switch No.	Function	OFF	ON	Initial Settings
1	Auto cutter	-	Unavailable	ON
2	Interface	See Table below.		OFF
3				OFF
4	Spare	Fixed	-	OFF
5	Spare	Fixed	-	OFF
6	Print head installed	3 inch	-	OFF
7	Character	Normal	Low current consumption	OFF
8	Reserved	Fixed	-	OFF

* When DIP switch No. 7 is set to ON and low current consumption mode is selected, the printing speed will be 70 mm/s.

Selecting Interface

Baud Rate (bps)	Switch No.	
	2	3
Parallel + USB (VCOM)	OFF	OFF
Parallel + USB (Printer class)	OFF	ON
Serial MSW setting + USB (VCOM)	ON	OFF
Serial 19200*+ USB (Printer class)	ON	ON

* With initial setting, 19200 bps, stop bit 1, data length 8 bits, no parity (Fix)

7 Manual Setting of Memory Switches

Memory switches (Memory SW) can be set manually or by a command.
For manual setting, refer to the next page.
The function of each memory switch is shown in the following table.
(The white-on-black characters are factory setting.)

Switch No.	Setting	0 (OFF)	1 (ON)
Memory SW1-1	Power ON Info	Valid	Not send
SW1-2	Buffer Size*1	4k bytes	45 bytes
SW1-3	Busy Condition	Full/Err	Full
SW1-4	Receive Error	Print ?	No Print
SW1-5	CR mode	Ignored	LF
SW1-6	Reserved	Fixed	–
SW1-7	DSR Signal	Invalid	Valid
SW1-8	Reserved	Fixed	–
Memory SW2-1	Reserved	–	Fixed
SW2-2*2	Auto Cutter	Invalid	Valid
SW2-3	Spool Print	Invalid	Valid
SW2-4	Full Col Print	LineFeed	WaitData
SW2-5	Resume aft PE	Next	Top
SW2-6	Reserved*4	–	–
SW2-7	Reserved	Fixed	–
SW2-8	Reserved	–	Fixed
Memory SW3-1	Resum Cttr Err	FEED switch valid	FEED switch invalid
SW3-2	Reserved	Fixed	–
SW3-3	Parallel reset	Valid	Invalid
SW3-4	Reserved	Fixed	–
SW3-5	Character size*3	48 (CT-P292/CT-P293) 34 (CT-P290/CT-P291)	32 32
SW3-6	Reserved	Fixed	–
SW3-7	CBM1000 Mode	Invalid	Valid
SW3-8	Resum Open Err	Close	Command
Memory SW4-1	Reserved	–	Fixed
SW4-2	Reserved	–	Fixed
SW4-3	Feed&Cut at TOF	Invalid	Valid
SW4-4	Reserved	Fixed	–
SW4-5	Reserved	Fixed	–
SW4-6	Reserved	Fixed	–
SW4-7	Reserved	Fixed	–
SW4-8	Partial only	Invalid	Valid

*1. In the case of parallel interface and USB interface, the input buffer is 4 Kbytes regardless of this setting.
*2. MSW2-2 functions only when DS1 is ON (Valid).
*3. Depending on the DSW-6 setting.
*4. Depending on the DSW-6 setting.

Switch No.	Setting	0 (OFF)	1 (ON)
Memory SW5-1	Reserved	Fixed	–
SW5-2	Reserved	Fixed	–
SW5-3	Reserved	Fixed	–
SW5-4	Reserved	Fixed	–
SW5-5	Reserved	Fixed	–
SW5-6	Speed/Quality	Speed priority	Quality priority
SW5-7	Reserved	Fixed	–
SW5-8	Reserved	Fixed	–

Switch No.	Setting	Default	Set Values
Memory SW7-1	Baud Rate	9600 bps	1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps, 38400 bps, 57600 bps
SW7-2	Data Length	8bits	7bits, 8bits
SW7-3	Stop Bit	1bit	1bit, 2bits
SW7-4	Parity	NONE	NONE, EVEN, ODD
SW7-5	Flow Control	DTR/DSR	DTR/DSR, XON/XOFF
SW7-6	Reserved	-	-
SW7-7	VCom Protocol	PC Setting	PC Setting, DTR/DSR, XON/XOFF
Memory SW9-1	Code Page	PC437	PC437/Katakana/PC850,858/PC860/PC863/ PC865/PC852/PC866/PC857/WPC1252/ Space page/PC864/Thai Code 18
SW9-2	Int' char Set	U.S.A	U.S.A, France, Germany, England, Denmark, Sweden, Italy, Spain, Japan, Norway, Denmark 2, Spain 2, Latin America, Korea, Croatia, China
SW9-3	Kanji	OFF	ON, OFF
SW9-4	JIS/Shift JIS	JIS	JIS, Shift JIS
Memory SW10-1	Print Density	100%	70%, 75%, 80%, 85%, 90%, 95%, 100%, 105%, 110%, 115%, 120%, 125%, 130%, 135%, 140%
SW10-2	Print Speed	Level 9	Level 1, Level 2, Level 3, Level 4, Level 5, Level 6, Level 7, Level 8, Level 9
SW10-3	Reserved	-	-

8 Error Indication

Status	POWER LED (Green)	ERROR LED (Red)	PAPER LED (Orange)
Head overheat error	Lights		—
Front cover open (At standby)	Lights	Lights	—
Front cover open (In printing)	Lights		—
Cutter lock error	Lights		—
Memory check error		—	—
Low voltage error	Lights		—
High voltage error or	Lights		—
Paper end	Lights	—	Lights
Macro execution wait	Lights		—