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TROUBLESHOOTING GUIDE

Sato WS2 troubleshooting guide: errors, faults and fixes

Updated 21 October 2026 · By TIMCOD maintenance technicians · Source: official Sato documentation, WS2 Series operator manual (WS208 and WS212) (list at the end of the page)

TIMCOD PRODUCT PAGE (IN FRENCH)

See the Sato WS2 Series product page →

In brief. The Sato WS2 (WS208 at 203 dpi, WS212 at 300 dpi) is a compact 2-inch direct thermal printer that Sato designed for hospitals, to print patient wristbands and labels with a single device. It has neither a display nor a ribbon: two lights and a FEED button are used for diagnostics, calibration and reset. The causes the manual cites most often are incorrectly loaded media, a dirty printhead or sensor and a sensor that needs calibrating. This guide covers 21 situations documented by Sato, with the procedures and safety instructions. Click a question to open the entry.

- **A light is orange or red:** find the combination in the [lookup table](#) and open the entry indicated.
- **Wristbands or labels printed poorly, with no alert:** see the [printhead cleaning](#), [calibration](#) and [roll loading](#) entries.

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- **The problem keeps coming back:** the [preventive maintenance](#) section explains how it reduces this type of fault.

What does the light on my Sato WS2 indicate? Lookup by light combination

The WS2 shows its status with two lights: LED 2 at the top, LED 1 below it, near the FEED symbol. Each one can be green, orange or red, solid or flashing (fast: 0.5 s, slow: 2 s). The status shown by the SATO WS2 utility is given in brackets. The table links each combination to its meaning and to the troubleshooting entry.

Message or state	LED 2 / LED 1 lights (Sato manual)	Likely cause	Entry
Ready to print (ON LINE)	● ● LED 2 and LED 1 solid green	Normal operation	Reading the lights
Data transmission	● ● LED 2 solid green, LED 1 fast-flashing green	Data being received	Reading the lights
Paused (PAUSE)	● ● LED 2 and LED 1 slow-flashing green	Printing paused	Reading the lights
Writing to memory (SAVING)	● ● Green lights, slow flashing (arrangement to be confirmed)	Writing to Flash or USB memory, or initialising the USB stick	USB memory stick
Printhead too hot (EXCESS HEAD TEMP)	● ● LED 2 solid green, LED 1 solid orange	High printhead temperature	Printhead too hot

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Message or state	LED 2 / LED 1 lights (Sato manual)	Likely cause	Entry
RTC battery low (LOW BATTERY)	● ● LED 2 solid green, LED 1 slow-flashing orange	Clock battery low (built-in clock)	<u>Reading the lights</u>
Module open at power-on	● ● LED 2 solid green, LED 1 fast-flashing orange	Print module open at switch-on	<u>Cover open</u>
Jam (PAPER JAM)	● ● LED 2 and LED 1 solid orange	Media stuck during feed	<u>Jam</u>
End of media (NO PAPER)	● ● LED 2 and LED 1 fast-flashing orange	No media left when the data was sent	<u>End of media</u>
Printhead damaged (HEAD ERROR)	● ● LED 2 solid red, LED 1 solid orange	Broken element on the thermal head	<u>Printhead damaged</u>
Cutter error (CUTTER ERROR)	● ● LED 2 solid red, LED 1 fast-flashing orange	Problem with the optional cutter	<u>Cutter</u>
Module opened during printing (HEAD OPEN)	● ● LED 2 and LED 1 solid red	Printhead cover opened during printing	<u>Cover open</u>
EEPROM or memory access error (SAVING ERROR)	● ● LED 2 solid red, LED 1 slow-flashing red	EEPROM cannot be read or written, abnormal memory access	<u>Reading the lights</u>
Command error (COMMAND ERROR)	● ● LED 2 solid red, LED 1 fast-flashing red	Command cannot be interpreted	<u>Nothing prints</u>

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Message or state	LED 2 / LED 1 lights (Sato manual)	Likely cause	Entry
Flash or USB memory error (MEMORY WRITE ERROR, FORMAT ERROR, MEMORY FULL)	● ● Red lights, slow flashing (arrangement to be confirmed)	Flash memory, USB write or format failure, insufficient space	<u>USB memory stick</u>
Firmware update in progress (UPDATING FIRMWARE NOW)	● ● LED 2 alternating red and orange, LED 1 solid green	Firmware being written	<u>Firmware</u>
Reset complete	● ○ LED 2 solid green, LED 1 off	Successful return to the default (as-shipped) settings	<u>Reset</u>
Ethernet port with no link	○ ○ Both Ethernet port lights off	No Ethernet link detected	<u>Ethernet network</u>

The combinations come from the “Status Lights” table in the WS2 Series Printer Operator Manual (2020 edition) and from the procedures in the manual. For two rows (writing to memory, Flash or USB memory error), the layout of the PDF does not make it possible to know for certain which light is flashing: only the colour and the rate are given. The Sato table also includes a “ribbon end” row reserved for thermal transfer models, which does not apply to the direct thermal WS2.

Orange or red lights on the Sato WS2: jam, end of media, cover, overheating

These light combinations signal the common incidents on the WS2. For each one: the short answer, the cause given by Sato and the actions to take.

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What should I do when both lights on my Sato WS2 are solid orange?

Lights: LED 2 and LED 1 solid orange · SATO WS2 utility: PAPER JAM

Short answer: For Sato, two solid orange lights correspond to a jam during feeding. Open the top cover, remove the stuck wristband or label, then check that the paper guides are holding the media properly.

LIKELY CAUSE

The WS2 light table associates this combination with a paper jam; the SATO WS2 utility then shows PAPER JAM. The troubleshooting procedure says to clear the media and check that it is held by the paper guides.

Caution: To avoid injury, do not trap your fingers in the paper feed slot when opening or closing the top cover.

WHAT TO DO

1. Pull the latch to open the top cover.
2. Clear the stuck media.
3. Check that the roll is held firmly by its holders and that the media passes under the paper guides.
4. Close the top cover by pressing on both sides.

Sources: [Status Lights; SATO WS2 Printer Utility \(Printer Status\)](#)  – WS2 Series Printer Operator Manual (Sato, 2020) · [5.2 Media problems; 2.3.2 Installing a media roll; 1.3.2 Rear view](#)  – WS2 printer operator manual (Sato, French version) (official documentation).

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Why is my Sato WS2 flashing orange when wristbands or labels are loaded?

Lights: LED 2 and LED 1 fast-flashing orange · Utility: **NO PAPER**

Short answer: This flashing indicates that the printer can no longer find any media when it receives data. If the roll is empty, replace it; if it is in place, clean the sensor, as Sato points out that a dirty sensor detects the media poorly.

LIKELY CAUSE

According to the light table: end of media when the data is sent. The manual then says to load a new roll; the Maintenance chapter states that dirty sensors do not detect the media correctly.

Caution: Always switch off the printer before cleaning it.

WHAT TO DO

1. If the roll is empty, load a new one: see the [roll loading](#) entry.
2. If the roll is in place, clean the sensor: soft cloth or cotton bud moistened with ethyl alcohol, gentle brushing, then a dry cloth to remove any residue.
3. Close the cover and press **FEED**: a label should feed.

Sources: [Status Lights; SATO WS2 Printer Utility \(Printer Status\)](#) [↗](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [5.2 Media problems; 4.1.3 Sensor; 2.3.3 Testing the media feed](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

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Why does my Sato WS2 show two solid red lights?

Lights: LED 2 and LED 1 solid red (module open during printing); LED 2 green and LED 1 fast-flashing orange (module open at power-on) · Utility: **HEAD OPEN** , **HEAD OPEN ERROR**

Short answer: The print module, in other words the printhead cover, was opened during printing. Close the top cover by pressing on both sides, then restart the job.

LIKELY CAUSE

Sato provides two indications: two solid red lights when the module is opened during printing, and LED 2 green with LED 1 fast-flashing orange when it is open at power-on. The utility shows HEAD OPEN (cover open while online) or HEAD OPEN ERROR (feed requested with the cover open).

Caution: To avoid injury, do not trap your fingers in the paper feed slot when closing the cover.

WHAT TO DO

1. Close the top cover by pressing on both sides.
2. Restart printing, or press **FEED** to feed a label.

Sources: [Status Lights; SATO WS2 Printer Utility \(Printer Status\)](#) [↗](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [1.3.2 Rear view; 2.3.2 Installing a media roll](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

My Sato WS2 stops during printing with an orange light: is it serious?

Lights: LED 2 solid green, LED 1 solid orange · Utility: **EXCESS HEAD TEMP**

Short answer: No: the printhead has reached too high a temperature and the WS2 pauses automatically. Printing resumes by itself once the printhead has cooled, with no action needed.

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LIKELY CAUSE

The manual explains that the printer monitors the printhead temperature and suspends printing while it is too high; the unfinished job then resumes automatically.

Caution: If you need to work on the printhead just after printing, wait for it to cool.

WHAT TO DO

1. Wait: according to Sato, no action is required.
2. The current job resumes automatically once the printhead has cooled.

Sources: [Status Lights](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [5.3 Other problems; 4.1.1 Printhead](#) – WS2 printer operator manual (Sato, French version) (official documentation).

Calibrating the Sato WS2: print offset on wristbands or labels

The WS2 is calibrated directly with the FEED button, without a computer.

How do I calibrate the sensor on my Sato WS2 after changing the roll?

Symptoms: incorrect print position, media poorly detected.

Short answer: Quick method: with the media loaded and the cover closed, hold FEED for 3 seconds until LED 2 turns orange and LED 1 turns green, then release: calibration starts. System mode also lets you choose the transmissive or reflective sensor.

LIKELY CAUSE

According to the Sato troubleshooting section, a media sensor that needs calibrating is one of the causes of an incorrect print position.

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OFFICIAL CALIBRATION PROCEDURES

1. Check that the media is loaded correctly and that the print module is closed.
2. Direct method: hold **FEED** for 3 seconds, until LED 2 turns orange and LED 1 turns green, then release; calibration starts.
3. System mode method: set the power switch to OFF, hold **FEED** and switch the printer back on; the lights turn solid orange, then green, then change colour.
4. Then release FEED immediately when LED 1 is green and LED 2 is red (transmissive sensor), or when LED 1 is green and LED 2 is orange (reflective sensor).
5. Press **FEED**: calibration is complete when the printer has fed 3 to 4 labels and stops.

The manual describes the transmissive sensor and the reflective sensor in section 2.5, “Media detection”.

Sources: [Media Sensor Calibration; System Mode](#) [↗](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [3.1 Sensor configuration and calibration; 5.2 Media problems](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

Why is the print incorrectly positioned on the wristbands or labels from my Sato WS2?

Symptoms: text or barcode offset relative to the wristband or label.

Short answer: The WS2 manual cites unsuitable media, incorrect loading, a sensor that needs calibrating or a dirty sensor. Check the media, reload it, calibrate the sensor, then clean it if the offset persists.

LIKELY CAUSE

According to the Troubleshooting section: type of media not suitable for printing, media incorrectly loaded, media sensor not calibrated, dirty media sensor.

Caution: Switch off the printer before any cleaning.

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WHAT TO DO

1. Check that the type of media is suitable for printing.
2. Reload the media: see the [roll loading](#) entry.
3. Calibrate the sensor: see the [calibration](#) entry.
4. If the offset persists, clean the sensor with a cotton bud moistened with ethyl alcohol, then wipe with a dry cloth.

Source: [5.2 Media problems](#); [4.1.3 Sensor](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

Loading wristbands and labels on the Sato WS2: the media does not come out

The WS2 works without ribbon: these entries are about the roll of wristbands or labels.

How do I load a roll of wristbands or labels into a Sato WS2?

Symptoms: media that feeds poorly, is poorly detected or does not come out.

Short answer: Open the cover with the latch, place the roll between its holders with the printable side facing up, pass the media under the paper guides, then close the cover on both sides. Then test the feed with FEED.

LIKELY CAUSE

Several rows of the Sato troubleshooting table (media not coming out, print incorrectly positioned, nothing prints) first refer to reloading the media correctly according to section 2.3 of the manual.

Caution: To avoid injury, do not trap your fingers in the paper feed slot when opening or closing the cover.

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OFFICIAL LOADING PROCEDURE

1. If the roll has been soiled during transport, handling or storage, remove its outer layer so that no glue or dirt gets between the printhead and the rubber roller.
2. Pull the latch to open the top cover.
3. Spread the roll holders apart, place the roll between them with the printable side facing up and check that it is held firmly.
4. Pull the media out of the printer, passing it under the paper guides.
5. Close the top cover by pressing on both sides.
6. For media of regular width, turn the holder wheel to adjust the distance between the guides.
7. With the printer on, press **FEED** to feed a label, then tear it off along the front edge of the cover.

Source: [2.3 Loading the media \(2.3.1 to 2.3.3\)](#); [1.3.2 Rear view](#); [5 Troubleshooting](#)  – WS2 printer operator manual (Sato, French version) (official documentation).

Why does the media not come out of my Sato WS2?

Symptoms: nothing comes out, even when you press FEED.

Short answer: Sato cites two causes: incorrectly loaded media or a jam. Reload the roll according to section 2.3 of the manual and clear any stuck paper.

LIKELY CAUSE

Section 5.1 of the manual: media loaded incorrectly, or paper jam.

WHAT TO DO

1. Reload the roll: see the [roll loading](#) entry.
2. Clear any stuck paper ([jam](#) entry).
3. Close the cover on both sides, then test the feed with **FEED**.

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Sources: [5.1 Printer problems](#) – WS2 printer operator manual (Sato, French version) · [Troubleshooting \(Printer Issues\)](#) – WS2 Series Printer Operator Manual (Sato, 2020) (official documentation).

Several of these faults involve the consumables used. TIMCOD supplies [identification wristbands](#) and [labels](#) (pages in French).

Faded print, white lines or no print: Sato WS2 print quality

In direct thermal mode, quality depends mainly on the cleanliness of the printhead and roller, the contrast, the speed and the media.

How do I clean the printhead of a Sato WS2 when the print becomes faded?

Symptoms: light or poor-quality print on the wristbands or labels.

Short answer: The Sato manual points to a dirty printhead or rubber roller, unsuitable contrast or speed, or media that is not compatible with direct thermal printing. Clean the printhead with ethyl alcohol in one direction only, then the roller, before adjusting the contrast and speed.

LIKELY CAUSE

Section 5.2: dirty printhead, dirty rubber roller, contrast or speed needing adjustment, media incompatible with direct thermal printing or with the printer.

Caution: Never use water, which corrodes the heating elements, and do not touch the printhead with your bare hands or with a hard object.

OFFICIAL CLEANING PROCEDURE, THEN SETTINGS

1. Switch off the printer; if it has just printed, wait for the printhead to cool.

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2. Moisten a soft cloth or a cotton bud with ethyl alcohol.
3. Wipe it gently over the printhead in one direction only, from right to left or from left to right: a back-and-forth motion would redeposit dust and impurities.
4. Wipe the rubber roller with a soft cloth moistened with ethyl alcohol to remove dust and glue.
5. Adjust the print contrast or reduce the speed.
6. Use media compatible with direct thermal printing and with the WS2.

Sato strongly recommends cleaning the printhead with each new roll, and more often in harsh environments; general maintenance is daily for heavy use, weekly otherwise. A dirty roller degrades the print and can damage the printhead.

Source: [4.1 Cleaning](#); [4.1.1 Printhead](#); [4.1.4 Rubber roller](#); [5.2 Media problems](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

What causes the white lines on the labels and wristbands printed by my Sato WS2?

Symptoms: white streaks or broken lines in the print.

Short answer: On the WS2, which prints without ribbon, the manual cites only one cause: a dirty printhead. Clean it with ethyl alcohol; if the lights indicate a damaged printhead, contact your reseller.

LIKELY CAUSE

Section 5.3 of the manual: dirty printhead.

WHAT TO DO

1. Clean the printhead: see the [printhead cleaning](#) entry.
2. If LED 2 is red and LED 1 is orange, both solid, see the [damaged printhead](#) entry.



Sources: [5.3 Other problems](#) – WS2 printer operator manual (Sato, French version) · [Status Lights](#) – WS2 Series Printer Operator Manual (Sato, 2020) (official documentation).

Why does my Sato WS2 print nothing when I have started printing?

Symptoms: no printing after sending from the software.

Short answer: The media may be incorrectly loaded, or the data may not have arrived correctly. Reload the roll, check the interface selected in the printer driver and resend the job.

LIKELY CAUSE

Section 5.2: media incorrectly loaded, or print data not transmitted correctly, to be checked in the interface configuration of the driver.

Caution: Do not switch off the printer during a data transmission; before switching it off, check that the light is solid green.

WHAT TO DO

1. Reload the media: see the [roll loading](#) entry.
2. In the printer driver, check the interface configuration (port).
3. Resend the data.

LED 2 solid red and LED 1 fast-flashing red indicate a command error (**COMMAND ERROR** in the utility: command cannot be interpreted).

Sources: [5.2 Media problems](#); [2.2.2 Powering off](#) – WS2 printer operator manual (Sato, French version) · [Status Lights](#); [SATO WS2 Printer Utility \(Printer Status\)](#) – WS2 Series Printer Operator Manual (Sato, 2020) (official documentation).

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Damaged printhead on the Sato WS2

A dedicated light combination indicates a printhead that is out of service.

Solid red and orange LEDs on my Sato WS2: is the printhead out of service?

Lights: LED 2 solid red, LED 1 solid orange · Utility: HEAD ERROR

Short answer: Yes, this combination indicates a damaged printhead. The Sato manual asks you to contact your local reseller for assistance.

LIKELY CAUSE

The light table indicates a damaged printhead; the SATO WS2 utility specifies HEAD ERROR, meaning a broken element on the thermal head.

Caution: Do not touch the printhead with your bare hands or with a hard object.

WHAT TO DO

1. Stop printing.
2. Contact your local reseller.

When to call a technician: a printhead reported as damaged is a matter for your local reseller, according to the Sato manual.

The printhead warranty is void if its serial number is erased, altered or illegible. Cleaning the rubber roller regularly prevents it from damaging the printhead.

Sources: [Status Lights](#); [SATO WS2 Printer Utility \(Printer Status\)](#) [↗](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [5.3 Other problems](#); [4.1.1 Printhead](#); [4.1.4 Rubber roller](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

TIMCOD supplies [printheads for thermal printers](#) (page in French).

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Sato WS2 Ethernet network and Wi-Fi: configuration with the Sato utility

On the WS2, the IP address and Wi-Fi are set from the computer, with the SATO WS2 utility.

How do I configure the IP address of a Sato WS2 on an Ethernet network?

Ethernet port lights: speed (green) and link/activity (orange) · Tool: SATO WS2 utility.

Short answer: The IP address is set in the SATO WS2 utility, with the printer connected via USB: LAN tab of Parameter Setting, fixed address or DHCP, then Send and Get. If both Ethernet port lights stay off, no link is detected.

LIKELY CAUSE

The WS2 manual describes the Ethernet port lights: both off, no link; flashing, printer getting ready; green on, 100 Mbit/s (off: 10 Mbit/s); orange on, link established; orange flashing, network activity.

OFFICIAL PROCEDURE (SATO WS2 UTILITY)

1. Connect the printer and the computer to a network device with an Ethernet cable, then check the port lights.
2. In the utility, choose the **USB** (or **COM**) port, then **Parameter Setting > LAN**.
3. Enter the IP address, subnet mask and gateway, or enable DHCP, then click **Send**: the printer restarts.
4. Click **Get** to read back the TCP/IP parameters.
5. Then select the **LAN** port, click **Setting** and enter the corresponding IP address.

With DHCP, the address may change after a long period of inactivity: run **Get** again. The self-test label also prints the IP address, subnet mask, gateway and MAC address. The USB type B port is used to connect the computer for configuration; the utility's Multi-LAN mode manages several printers by their IP address.

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Sources: [SATO WS2 Printer Utility \(LAN, IPv6\); Communications](#) [↗](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [3.4 Communications; 3.2 Auto-test](#) [↗](#) – WS2 printer operator manual (Sato, French version) · [WS2-2 Series Printer Resources | SATO](#) [↗](#) – Sato Europe Resources page (official documentation).

How do I set up Wi-Fi (WLAN option) on a Sato WS2?

Option: wireless LAN kit · Utility: **WIRELESSLAN ERROR** in the event of an initialisation or settings error.

Short answer: Wi-Fi is an option on the WS2 (wireless LAN kit). It is configured in the SATO WS2 utility, WLAN tab: SSID, security type and credentials, then fixed IPv4 address or DHCP, before clicking Send then Get.

LIKELY CAUSE

The manual lists wireless LAN among the options (section 6.7); the utility shows WIRELESSLAN ERROR in the event of an initialisation error or a module settings error.

OFFICIAL PROCEDURE (SATO WS2 UTILITY)

1. Check that the computer is already connected to the target wireless network.
2. In the utility, choose **USB** or **COM**, then **Parameter Setting > WLAN**.
3. Enter the **SSID** and the security details: WEP key and index, pre-shared key (WPA or WPA2 Personal), or EAP method, user name and password (802.1X, WPA or WPA2 Enterprise).
4. Choose a fixed IPv4 address (DHCP disabled) or DHCP, click **Send**, then **Get**.
5. Enter the address obtained in **LAN > Setting**.

When the module is installed, the self-test label lists the Wi-Fi settings: WLAN firmware version, IP address, SSID, mode (ad hoc or infrastructure), channel and authentication.

Sources: [SATO WS2 Printer Utility \(WLAN\); Printer Status](#) [↗](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [6.7 LAN sans fil \(Option\); 3.2 Auto-test](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

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The Sato WS2 cutter jams or cuts poorly

This entry concerns the optional cutter kit.

The cutter on my Sato WS2 cuts poorly or jams: what should I do?

Lights: LED 2 solid red, LED 1 fast-flashing orange · Utility: CUTTER ERROR

Short answer: The manual cites a jam, a loose cutter or a blade that no longer cuts. Clear the stuck media and refit the cutter; if the blade is blunt, replace the cutter with a new one.

LIKELY CAUSE

Section 5.3: paper jam, cutter not properly fitted, blade no longer sharp enough. The cutter is an option on the WS2.

Caution: To avoid injury, do not trap your fingers in the paper feed slot.

WHAT TO DO

1. Clear the jammed paper.
2. Put the cutter back in place and tighten it.
3. If the blade no longer cuts, replace the cutter.

Sources: [5.3 Other problems](#); [1.3.2 Rear view](#)  – WS2 printer operator manual (Sato, French version) · [Status Lights](#)  – WS2 Series Printer Operator Manual (Sato, 2020) (official documentation).

My Sato WS2 does not switch on or switches off by itself: power problems

The WS2 is powered by an AC adapter; the Sato manual lists the points to check.

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My Sato WS2 no longer switches on or switches off by itself: what should I check?

Symptoms: no light, or unexpected shutdown.

Short answer: Check the power cable, the adapter plug in the printer's connector and the wall socket, testing with another device. If the printer switches off by itself, also check the condition of the adapter and the cord, the type of power supply and the power supplied by the socket.

LIKELY CAUSE

Section 5.1: power cable unplugged, adapter plug not properly inserted, faulty power supply between the socket and the printer; for shutdowns, damaged adapter or cord, unsuitable power supply or insufficient socket.

Caution: Use only adapters listed by Sato, do not plug in the cable with wet hands and do not install the printer or the adapter where they could get wet: risk of serious injury.

WHAT TO DO

1. Check that the power cable is plugged in and that the adapter plug is fully inserted in the printer's power connector.
2. Test the cable and the socket with another device.
3. Unplug the printer from the wall socket, then plug it back in.
4. If the printer repeatedly switches off: switch it back on, check that the adapter and the cord are intact, that the type of power supply is suitable and that the socket supplies enough power.

Sato advises switching on the printer before the host computer and switching it off after the host computer.

Source: [5.1 Printer problems](#); [2.1 Connecting the power cable](#); [2.2 Powering on/off](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

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Resetting the Sato WS2 and updating its firmware

Two operations described step by step by Sato: returning to the default settings and updating the firmware.

How do I restore a Sato WS2 to its original configuration?

System mode: LED 1 and LED 2 red.

Short answer: Use system mode: hold FEED at power-on, release it when both lights are red, then hold it again for more than 3 seconds. The WS2 is back in its as-shipped state when LED 1 goes off and LED 2 stays solid green.

OFFICIAL RESET PROCEDURE

1. Switch the printer off.
2. Hold down **FEED** and switch it back on.
3. After solid orange then green, release FEED immediately when both lights turn red.
4. Hold **FEED** again for more than 3 seconds, then release: the lights flash red three times, then stay orange for a few seconds.
5. Reset successful: LED 1 goes off and LED 2 stays solid green.

If FEED was not held long enough, LED 1 flashes orange three times, LED 2 goes off and the reset does not take place. According to Sato, the reset corrects some problems caused by settings changed during printing.

Sources: [Reset Printer; System Mode](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [3.3 Resetting the printer](#) – WS2 printer operator manual (Sato, French version) (official documentation).

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How do I update the firmware on a Sato WS2?

During the update: LED 2 alternates red and orange · Utility: **UPDATING FIRMWARE NOW** ,
UPDATING FIRMWARE ERROR

Short answer: Sato offers two methods: the SATO WS2 utility (Download, Firmware tab) via USB, serial or network, or a USB stick containing a “Firmware” folder, inserted before switching on. During the update, LED 2 alternates red and orange; never cut the power.

Caution: During the update, do not open the print module, do not disconnect the printer from the computer and do not cut its power. With the USB stick method, do not remove the stick before the end.

OFFICIAL PROCEDURE WITH THE SATO WS2 UTILITY

1. Connect the printer to the computer (USB or serial), check that the print module is closed, switch on the printer and launch the utility.
2. Choose the port: **USB**, or **COM** with settings identical to those of the COM tab.
3. Open **Download, Firmware** tab; right-click, **Add**, then select the firmware files.
4. Tick the files to send (or **Select All**) and click **Send**: LED 1 flashes green during the transfer.
5. The printer applies the update (LED 2 alternates red and orange, LED 1 solid green), then restarts by itself after the message “Firmware Update, Succeed”.
6. When “Firmware Update Complete” is displayed, click **Close** or **Save Log**.

USB stick method: create a “Firmware” folder containing the files, close the module and switch off the printer, insert the stick, then switch on; the update starts by itself (LED 2 flashes green, then alternates red and orange) and ends when LED 2 goes off. A stick inserted while the printer is on does not trigger anything. Atmel mode is reserved for the rare cases where the utility cannot update the firmware.

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Sources: [SATO WS2 Printer Utility: 6.3 and 6.4 \(firmware update\)](#)  – WS2 Series Printer Operator Manual (Sato, 2020) · [Compact, hygienic all-in-one 2-inch printer designed for patient safety](#)  – Sato WS2-2 brochure (official documentation).

Other questions about the Sato WS2: lights, configuration label, USB stick

Reading the two lights, printing the configuration label and dealing with USB stick errors.

How do I print the configuration label on a Sato WS2?

System mode: LED 2 green, LED 1 orange.

Short answer: With the printer off, hold FEED while switching it on and release when LED 2 is green and LED 1 is orange; pressing FEED prints the label. It shows, among other things, the firmware version, the print settings and the network settings.

OFFICIAL SELF-TEST PROCEDURE

1. Switch the printer off.
2. Hold **FEED** and switch it back on.
3. After the orange then green sequence, release FEED when LED 2 is green and LED 1 is orange.
4. Press **FEED**: the configuration label prints.

The label shows the firmware version, memory, downloaded fonts, sensor type, speed, contrast, calibration mode, network settings (IP, subnet mask, gateway, MAC, DHCP, IPv6), serial number and, if the module is installed, the Wi-Fi settings. It also includes test pages for the SDPL, SEPL and SZPL languages.

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Sources: [Self-Test; System Mode](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [3.2 Auto-test](#) – WS2 printer operator manual (Sato, French version) (official documentation).

My Sato WS2 cannot write to the USB stick: what should I do?

Lights: red, slow flashing · Utility: `MEMORY WRITE ERROR` , `FORMAT ERROR` , `MEMORY FULL`

Short answer: Check that the stick is fully inserted in the USB type A port, then free up space or change the stick if it is full or damaged. Red lights flashing slowly indicate a Flash or USB memory error.

LIKELY CAUSE

Section 5.3: stick incorrectly inserted or damaged, insufficient USB memory to save the files. The light table groups under the same alert the Flash memory error on the CPU board, the USB stick error, the formatting error and lack of space.

WHAT TO DO

1. Check that the USB stick is properly inserted in the type A port.
2. If there is not enough space, delete files or use a new stick.
3. If the stick is damaged, replace it.

The USB type A port also accepts a keyboard or a scanner. Green lights flashing slowly, on the other hand, indicate that writing is in progress or that the stick is being initialised (`SAVING` status).

Sources: [5.3 Other problems; 3.4 Communications](#) – WS2 printer operator manual (Sato, French version) · [Status Lights; SATO WS2 Printer Utility \(Printer Status\)](#) – WS2 Series Printer Operator Manual (Sato, 2020) (official documentation).

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What do the LED 1 and LED 2 lights on my Sato WS2 mean?

LED 2: top light · LED 1: bottom light, near the FEED symbol · Fast flashing: 0.5 s, slow: 2 s.

Short answer: On the WS2, LED 2 is the top light and LED 1 the bottom one, near the FEED symbol. Two solid green lights: the printer is ready; a combination with orange mainly concerns the media, the temperature or the cover, a combination with red an error (printhead, cutter, cover opened during printing, memory or command).

LIKELY CAUSE

The Sato “Status Lights” table also describes states without a dedicated entry: data transmission (LED 2 green, LED 1 fast-flashing green), pause (two slow-flashing green lights), RTC battery low (LED 2 green, LED 1 slow-flashing orange, on printers with a built-in clock), EEPROM or memory access error (LED 2 red, LED 1 slow-flashing red).

WHAT TO DO

1. Note the colour and rate of each light.
2. Look up the combination in the [lookup table](#).
3. To confirm, read the plain-text status in the SATO WS2 utility (for example **N0 PAPER** , **HEAD ERROR** , **SAVING ERROR**).

Before switching off the printer, Sato asks you to check that the light is solid green. The manual does not offer any specific remedy for the EEPROM error or for the low RTC battery.

Sources: [Status Lights; SATO WS2 Printer Utility \(Printer Status\)](#) [↗](#) – WS2 Series Printer Operator Manual (Sato, 2020) · [1.4.1 Status lights; 2.2.2 Powering off](#) [↗](#) – WS2 printer operator manual (Sato, French version) (official documentation).

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When should you call a technician for a Sato WS2?

The entries above rely first on reloading, cleaning, calibrating or resetting. The Sato manual refers you to your reseller in the following case:

- **Damaged printhead (LED 2 red, LED 1 orange):** contact your local reseller for assistance.

Avoiding recurring faults on the Sato WS2: preventive maintenance

Several entries in this guide point to sensors that are badly positioned or dirty, a printhead or platen roller that needs cleaning, or unsuitable settings or consumables. These are exactly the points a preventive maintenance visit checks before they cause a breakdown.

TIMCOD preventive maintenance is part of the through-life maintenance (MCO) TIMCOD provides for your fleet (page in French): scheduled preventive visits by certified technicians, with a detailed report. What it brings to a WS2 fleet:

Fewer breakdowns, less downtime

Fewer production interruptions caused by label printers.

Worn parts detected in time

Printhead, platen roller, sensors: spotted before they cause a breakdown.

Regular cleaning and checks

Printhead, rollers and sensors cleaned and checked at every visit.

Longer service life

A well-maintained, properly adjusted printer lasts longer.

Print quality maintained

Fewer emergency call-outs

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Legible barcodes, with darkness and printhead pressure suited to your consumables.

Incidents are handled during scheduled visits rather than as emergency repairs.

Controlled maintenance costs

A predictable budget instead of unplanned repairs.

Specialist Sato technicians

Support from teams who know your equipment.

In addition, TIMCOD corrective maintenance includes phone support (hotline), repair to working order, express exchange and, as an option, SWAP. Maintenance contracts come in three levels (Essentiel, Confort, Premium).

Sato WS2 troubleshooting: frequently asked questions

How do I calibrate a Sato WS2?

With the media loaded and the cover closed, hold the FEED button for 3 seconds until LED 2 turns orange and LED 1 turns green, then release: calibration starts. System mode, accessed by holding FEED at power-on, also lets you choose the transmissive or reflective sensor. [See the detailed entry.](#)

How do I reset a Sato WS2?

With the printer off, hold FEED while switching it on and release when both lights are red. Then hold FEED for more than 3 seconds. The reset has succeeded when LED 1 goes off and LED 2 stays solid green. [See the detailed entry.](#)

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Why is my Sato WS2 flashing orange?

Two fast-flashing orange lights indicate that there is no media left when the data is sent. Replace the roll if it is empty; if it is in place, clean the sensor, as a dirty sensor detects the media poorly. [See the detailed entry.](#)

How do I update the firmware on a Sato WS2?

Use the SATO WS2 utility (Download, Firmware tab), or a USB stick containing a Firmware folder, inserted before switching on the printer. During the update, LED 2 alternates red and orange. Do not open the module, do not disconnect the printer and do not cut the power before the end. [See the detailed entry.](#)

How do I clean the printhead on a Sato WS2?

Switch off the printer and let the printhead cool. Wipe it gently in one direction only with a soft cloth or a cotton bud moistened with ethyl alcohol, never with water. Sato recommends this cleaning with each new roll. [See the detailed entry.](#)

How do I print a configuration label on a Sato WS2?

With the printer off, hold FEED while switching it on and release when LED 2 is green and LED 1 is orange. Pressing FEED prints the label, which shows, among other things, the firmware version and the network settings. [See the detailed entry.](#)

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How do I connect a Sato WS2 via Wi-Fi?

Wi-Fi is an option on the WS2 (wireless LAN kit). In the SATO WS2 utility, WLAN tab, enter the SSID, the security type and the credentials, then the fixed IPv4 address or DHCP. Then click Send, then Get. [See the detailed entry.](#)

What do two red lights mean on a Sato WS2?

Two solid red lights indicate that the print module was opened during printing. Close the top cover by pressing on both sides, then restart the job. [See the detailed entry.](#)

Sources consulted

All the causes, procedures and light states in this guide come from the official Sato documentation for the WS2 Series (French operator manual, English WS2 Series Printer Operator Manual, WS2-2 brochure), published on the Sato Europe website and consulted on 20 October 2026.

- [WS2 printer user manual](#)  – Sato, French version r01 (2018), WS208 and WS212 **official**
- [WS2 Series Printer Operator Manual](#)  – Sato, 2020 English edition (WS2_Operator_Manual_ENG_06) **official**
- [Compact, hygienic all-in-one 2-inch printer designed for patient safety](#)  – Sato WS2-2 brochure (French) **official**
- [WS2-2 Series Printer Resources | SATO](#)  – Sato Europe Resources page (manuals, utility) **official**

No online WS2 manual exists on manual.sato-global.com, and the Sato help centre (helpcenter.sato-global.com) was not consulted for this guide and is not cited. If the fault falls under these documents, refer to the manufacturer's documentation or ask the TIMCOD technicians.

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See also

- [Product page on timcod.fr \(in French\): Sato WS2 Series](#)
- [All Sato printer troubleshooting guides \(FX3-LX, PW208NX, CL4NX, CL6NX Plus, CT4-LX, PW4NX, WS4\)](#)
- [Maintenance and repair of Sato printers](#)
- [All printer troubleshooting guides, all brands](#)
- [Through-life maintenance \(MCO\): preventive and corrective maintenance \(in French\)](#)
- [Identification wristbands and wristband printers \(in French\)](#)
- [Printer cleaning kits \(in French\)](#)

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PDF version of the page <https://www.timcod.fr/repairation/en/printer-troubleshooting/sato/ws2>, updated on 21 October 2026.

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