

# HX Nitro

## Product Manual

www.maplejet.com
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# Hx Nitro Product Manual

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MapleJet has a policy of continuous product improvement, so the company reserves the right to change the specifications in this manual without prior notice.

For technical support visit www.maplejet.com or contact technical@maplejet.com.

MapleJet
4 Vata Court, Unit 20
Aurora, ON
L4G 4B6
Canada
+1 (905) 482-3106

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# Compliance Information

## FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## Canadian Compliance Statement IC RSS warning

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas

produire de brouillage, et (2)l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC Radiation Exposure Statement: This equipment complies with IC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

### For Customers in the European Union

This equipment displays the CE mark to indicate conformance to the following legislation:

### Radio Equipment Directive 2014/53/EU

Establishes a regulatory framework for the making available on the European market and putting into service of radio equipment.

- EMC Directive 2014/30/EU
- LowVoltage2014/35/EU

### RoHS Directive 2011/65/EU

Lays down rules on the restriction of the use of hazardous substances in electrical and electronic equipment (EEE) with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of waste EEE.

| | |
|---|---|
| IEC/EN 62368-1:2014 | Audio/video, information and communication technology equipment — Part 1: Safety requirements. |
| EN 55032:2012 | Electromagnetic compatibility of multimedia equipment - Emission Requirements. |
| IEC/EN 61000-4-3:2006 /A2:2010 | Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test. |
| IEC/EN 61000-4-5:2014 | Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test. |

| | |
|---|---|
| IEC/EN 61000-4-6:2004 | Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields. |
| IEC/EN 61000-4-11:2004 | Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests. |
| EN 55035:2017 | Electromagnetic compatibility of multimedia equipment - Immunity requirements. |

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# HEALTH AND SAFETY

## *Introduction*

It is important to read this chapter thoroughly before attempting to install, operate, service, or maintain Hx Nitro thermal inkjet printer. The safety guidelines provided in this chapter are intended to educate the operator on all safety issues so that the operator can operate the printer safely.

## *Equipment Safety Guidelines*

This section contains important safety guidelines pertaining to the operation and handling of the printer and associated equipment.

## *Electrical Codes Compliance*

All electrical wiring and connections must comply with applicable local codes. Consult the appropriate regulatory agency for further information.

## *Ink and other consumables safety guidelines*

When used correctly, printing inks do not cause problems. However, every person using them should be familiar with the appropriate safety standards and be aware of the precautions that should be taken. The following are basic requirements:

- Proper standards of industrial practice relating to cleanliness and tidiness must be maintained.
- Inks cartridges must be stored and handled with care.
- Smoking or the use of naked flames (or other sources of ignition) in the vicinity of any inks or solvents is highly dangerous and therefore strictly inadvisable.
- All who come into contact with inks must be properly instructed in their use.

Directions for safe working practices vary according to the environment. The following are broad principles so that necessary precautions may be taken:

- Contact with mouth must be avoided. Therefore eating, drinking or smoking, or any personal habits or actions which may transfer ink to the mouth, must be avoided.
- Contact with the eyes must be avoided. If ink does get into the eyes, first aid treatment is to flood the affected eye for 15 minutes with saline solution, (or clean water if saline solution is not available), taking care not to allow the water to run into an unaffected eye. Medical aid must be obtained immediately.

- Certain inks contain solvents which may injure the skin. Good working practice must always be employed and risk assessments carried out. Safety Data Sheets are available that give advice on personal protective equipment. Most gloves only offer limited and short-term exposure protection and must be changed after any splashing and on a frequent basis.
- Any used cleaning materials, e.g. rags, paper wipes, are a potential fire hazard. They must be collected for safe disposal after use.
- After exposure to ink, all possible traces must be washed off as soon as possible at the nearest washing facility.

Important Notes:

- Minimize the use and storage of the printer in high dust environments.
- Only use authorized cartridges provided by your authorized supplier.
- Do not expose to excessive heat sources, sunshine, fire or the like.
- For indoor use only. Printer should not be exposed to water.
- Only use accessories specified by the manufacturer.




**EMERGENCY CASE:** FOR EMERGENCY SITUATIONS, E.G. SMOKE COMING OUT OF PRINTER, UNCONTROLLABLE CONTINUOUS PRINTING, FIRE, EXPLOSIVE SOUNDS, ETC.

PLEASE REMOVE THE POWER SUPPLY IMMEDIATELY!



**ENVIRONMENTAL PROTECTION:** DON'T THROW PRINTER OR INK CARTRIDGES INTO REGULAR GARBAGE OR RECYCLING BINS. ENSURE PROPER DISPOSAL (E.G. ELECTRONIC WASTE) IN ACCORDANCE WITH YOUR LOCAL LAWS.

# DESCRIPTION & SPECIFICATIONS

## *Printer Description*

The Hx Nitro is a versatile inkjet printer that uses thermal inkjet (TIJ) technology to produce high-quality text, graphics and barcodes on a variety of substrates including paper, cardboard, plastic and metal. This printer is designed for use in a wide range of industries including manufacturing, packaging, and logistics.

The Nitro printer is easy to use thanks to its intuitive platform, Hx Manager. Using this platform, users can easily monitor, control and design messages. Hx Manager can be accessed via Wi-Fi directly with a default IP address or any Access Point using a smart device such as a smartphone, tablet, or computer.

In addition to being easy to use, Hx Nitro printer is highly reliable and efficient. It also has a compact design that makes it easy to integrate into existing production lines or workspaces.

Overall, the Hx Nitro inkjet printer using TIJ technology is a reliable, versatile and efficient solution for all your printing needs. Its offers easy-to-use and intuitive message design platform to make it a great choice for businesses of all sizes.

## *Terms & Conditions and Product Warranty*

Printer Warranty:

- This printer is warranted for 12 months from the date of delivery against any manufacturing defects under normal conditions of usage. Faults arising due to accidents / non-adherence to manufacturers recommendations and repair, or if done by unauthorized personnel, is not covered by this warranty.
- Any printer with damage will not be covered by the warranty.

Inks:

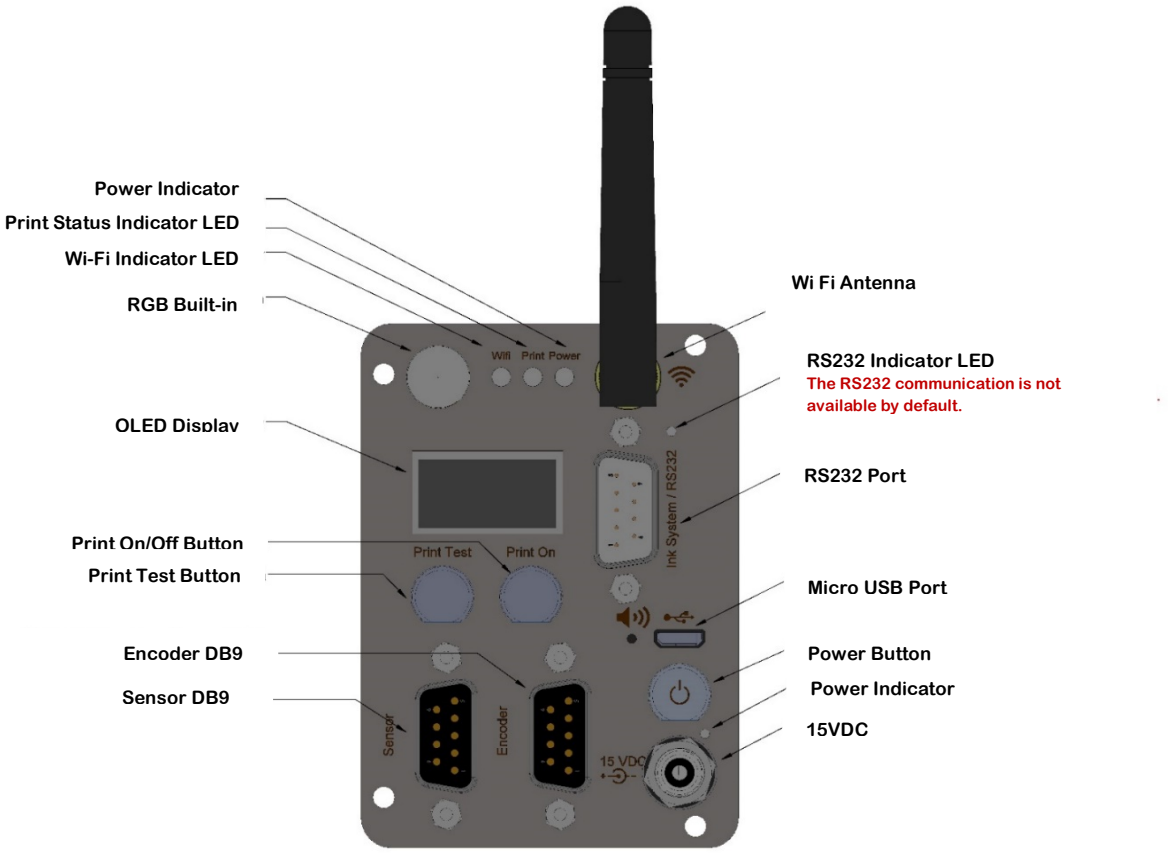
- The Ink cartridge Is warranted for 6 months from the date of delivery.
- A new cartridge will only be accepted for RMA when the problem is due to electrical failure, under Maplejet Support team's approval. Any ink cartridge with physical damage will not be accepted for RMA.

- Any used cartridges with no physical damage and cartridge volume are less than 80% will not be accepted for RMA. If the ink cartridge volume is more than 80%, it must be shipped to Maplejet's provided address for RMA. Shipping is covered by customer.
- In all cases, the filled cartridge failure report from the customer is mandatory to proceed with the RMA.

Product warranty does not cover:

- Any non-original parts and unapproved OEM inks are used.
- The product has been altered or modified without our approval.
- Print Cartridge damage as a result of improper installation.
- Damage occurs as a result of an accident, such as, but not limited to, falling sprayed with water or other liquids, caused by a natural disaster, caused by stocking or shipping conditions
- Unapproved, wrong or unstable power supply is used.

## *Printer overview*



## *Printer Specification*

### Controller

| | |
|---|---|
| Message Design | Device-independent & web-based Simple Message Editor and PC/Windows-based Message Design Software – Vanguard Create |
| Printing Channels | 1 cartridge 0.5" or 12,7mm Height |
| Environmental Conditions | Temperature 0-50 c, Humidity 0-80% |
| External Database | Several Million Records |
| Connectivity | Wireless Connectivity (Direct and Access Point Connections)<br>Isolated RS232<br>USB |
| Message Capacity | Unlimited (on PC software) |
| Start & Stop Time | Immediate |
| Password Protection | Yes |
| Alarm | Built-in beacon, 128*64 Pixel OLED, Buzzer |
| Operating Voltage | 100-240 VAC |
| Physical Specifications | |
| Case Materials | Colored Anodized Aluminum & Stainless Steel |
| Controller Weight | 910 gm |
| Dimension | 146mm x 60mm x 84mm |
| Printing Features | |
| Resolution | 600dpi |
| Maximum Print Speed | 120m/min (160dpi) |
| Logo Printing Option | Yes |
| Ink Consumption Control System | Yes |
| Number of Fonts | Default Windows 10 Font |
| Height Range of Printable Characters | Up to 0.5 inches (12.7 mm) |

| | |
|---|---|
| **Message Component** | Text, Date, Time, Logo, Counter, Shift, Barcode, External Data, Lot Number |
| **Languages** | Several languages (available upon request) |

## *Printer Components*

In this section, the parts and modules included in the package are introduced.

### *Controller*

The Hx Controller is highly compact, light with small footprint industrial design. It can be easily installed and integrated into any types of packaging lines even on lines with narrow spaces because of ir's small footprint design.



Figure 1. Hx Nitro

### *Cartridge*

The Hx Nitro printer uses replaceable ink cartridges that are available in different types and colors to meet different printing needs. The cartridges are designed to be easy to install and replace. Ink cartridges are available in a range of colors including black, red, blue.



Figure 2. Cartridge

# Hx Nitro Ink Chart

Choose the best ink for a particular application - from inks that can be used for all types of materials to inks that offer outstanding adhesion to plastic, steel, aluminum, glass, metal and wax coated substrates.

| INK NAME | INK TYPE | COLOR | *DRYING TIME | *DECAPPING TIME | STORAGE TEMPERATURE | WORKING TEMPERATURE | SHELF LIFE | SUBSTRATE | APPLICATION |
|---|---|---|---|---|---|---|---|---|---|
| Aspro | Solvent | White (pigment) | Fast | 12 hours | 10°C - 25°C | Up to 35°C | 9 Months | Porous & Non-porous | General material |
| Aquanix | Semi-Solvent | Black | 1s | 72 hours | 10°C – 30°C | Up to 40°C | 12 Months | Porous | ***Ideal for:*** Corrugate & Paper |
| Boxtron SSD | Semi solvent-based | Black, Blue, Red | Slow | 24 hours | 10°C - 30°C | Up to 35°C | 12 Months | Porous & Semi-porous | ***Ideal for:*** Paper bags, Corrugated boxes, semi-coated cardboard |
| Boxtron SSP | Semi solvent-based | Black | Slow | 24 hours | 10°C – 30°C | Up to 35°C | 6 Months | Porous & Semi-porous | ***Ideal for:*** Tyvek, PVC, aqueous coated stocks, and plastic cards |
| Chronplast S | Solvent-based | Black | Fast | 72 hours | 10°C - 25°C | Up to 50°C | 9 Months | Non-Porous | ***Ideal for:*** Metal, PET, PE, Glossy coated paper, |
| Chronplast W | Solvent-based | Black, Red | Fast | 16 hours – 24 hours | 10°C - 25°C | Up to 40°C | 9 Months | Porous & Non-porous | General material. Flexible food Packaging |
| Dynaplast | Solvent-based | Black | Fast | 16 hours – 24 hours | 10°C - 25°C | Up to 40°C | 9 Months | Porous & Non-porous | General material. Flexible food Packaging |
| eUrex | Solvent-based | Black | Fast | 24 hours (approx.) | 10°C - 25°C | Up to 50°C | 12 Months | Porous & Non-Porous | Flexible food Packaging<br><br>***Ideal for:*** PVC, PP, PET, ABS, Metal, Glass polystyrene and treated polyethylene film |
| Hyprox | Solvent-based | UVS | Slow | 24 hours | 10°C – 30°C | Up to 35°C | 9 Months | Porous & Non porous | ***Ideal for:*** PE, PP, Metal & PETG |
| Ultraflex | Solvent-based | Black | Super fast | 45 min | 10°C - 25°C | Up to 30°C | 9 Months | Non-porous | ***Ideal for:*** BOPP HDPE, PE, PVC, PP, PET, ABS, polystyrene and treated polyethylene film |

**Drying time Legend:**
Super Fast (less than 1 second)
Fast (1 to 2 seconds)
Medium (2 to 5 seconds)
Slow (more than 5 seconds)

**Note:**

*Based on room temperature (25°C) and depends on print parameters

### *Power Adapter and Cable*

The working voltage range of the power supply is between 100V and 240V. This power adapter can be used with power cables from other regions such as EU, Japan, Australia, Asia, etc., as long as the working voltage range of the power cable is between 100V and 240V.



Figure 3. Power Supply

Security considerations

- Use only the supplied power adapter and cable to avoid damaging the printer.
- Make sure the power cable you are using matches the voltage and current required by the printer to ensure safe and reliable operation.
- Keep the power adapter and cable away from water or moisture.
- Keep the power adapter and cable out of the reach of children and pets.

Specifications

| | |
|---|---|
| Input AC | 80 ~ 264VAC |
| OUTPUT DCV | 15 |
| RATED CURRENT | 4A |
| RATED POWER (max.) | 60W |
| RIPPLE & NOISE (max.) | 100mVp-p |
| Part number | MEAN WELL - GST40A15-P1J |

## *Encoder*



Figure 4. Encoder

If you have a production line with variable speed and you need to maintain consistent print size and location without adjusting print settings each time, an encoder is the ideal solution. An encoder is a specialized device that converts shaft rotation into a digital code. By connecting the encoder to the printer through a dedicated port, it becomes possible to monitor the speed of the production line and automatically adjust the print parameters accordingly.

The encoder continuously provides real-time feedback on the line speed, allowing the printer to dynamically adapt its printing parameters to maintain consistent print size and location. This automation eliminates the need for manual adjustments and ensures accurate and synchronized printing, even when the production line speed varies. The integration of an encoder with the printer streamlines the printing process, increases efficiency, and helps maintain high-quality prints in variable speed environments.

### Setup

To successfully integrate an encoder into your production line and printer, follow these steps:

1. Determine the optimal location for installing the encoder in your production line. Consider factors such as the type of machinery, the specific requirements of your process, and the physical accessibility. The encoder can be mounted on the shaft of a rotating component, the conveyor belt, or the film roller of the packaging machine, depending on the application.
2. Connect the encoder to the appropriate input port on the printer. Refer to the printer's documentation or user manual to identify the designated port for encoder connectivity. Ensure a secure and reliable connection between the encoder and the printer.
3. Configure the printer settings to establish communication with the encoder. Access the printer's settings or control panel and navigate to the encoder configuration section. Follow the instructions provided in the printer's documentation to configure the settings properly.

This may involve selecting the encoder type, setting the appropriate signal parameters, and specifying the desired printing parameters based on the encoder feedback.

### Specifications

| | |
|---|---|
| **Resolution** | 5000 Pulse - Rotary |
| **Output Phase** | 2 Phase |
| **Control Output** | Totem pole- NPN Open collector- |
| **Maximum Pulse frequency** | 2.8MHZ |
| **Output current** | 50-100 mA |
| **Sink (Consumption) current** | 8-15 mA |
| **Power supply** | 12VDC |

## *Fine Tune Module*

This module is used to easily maintain or adjust the gap between the nozzles and the substrate. It also provides 30mm movement to help place/remove the sealing cap easily on/from printer.

To use the height adjustment feature, turn the adjusting knob as shown in the diagram below. To place or remove the sealing cap, slide up the adjusting knob to lock it at 30mm height.

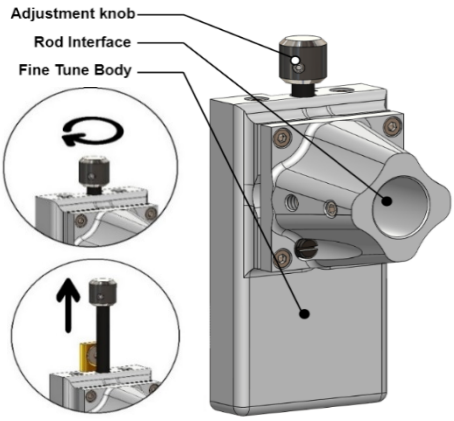



Figure 5. Fine Tune Module

### *Solvent Cleaning Solution*




Figure 6. Solvent Cleaning Solution

Hx Cartridge Cleaning Solution is a specialized cleaning solution designed to clean Hx printer cartridges. This solution along with lint-free wipes should only be used to clean Hx printer cartridges.

# INSTALLATION

## *L-shaped bracket installation*

The Hx L-Shaped Bracket is a versatile accessory designed for easy installation of Hx Nitro printers.

Parts of the L-shaped bracket:

1. Two Mounting bars
2. Brass Washers
3. Mounting Screws with Isolation
4. Interface Joints/Brackets



Figure 7. L-shaped bracket parts

Here is a step-by-step guide for installing the L-Shaped Bracket:

1. Attach the 30cm rod to the connecting joint and tighten it with an Allen screw.





Figure 8. L-shaped bracket installation rod

2. Attach the cross or middle bracket and tighten using Allen key #5.



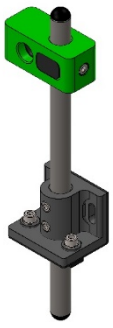


Figure 9. L-shaped bracket middle bracket

3. Attach the 40cm horizontal rod.

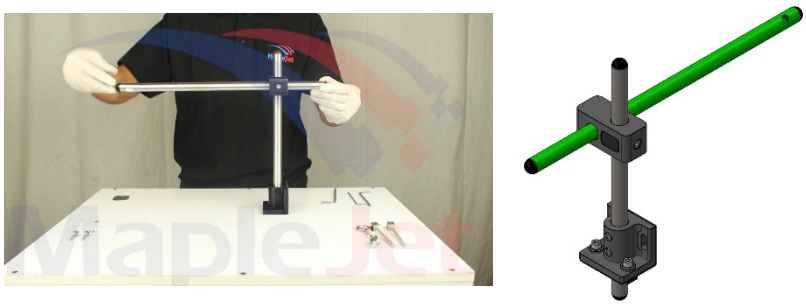


Figure 10. L-shaped bracket horizontal rod

4. Make sure that the interface has an isolation foam.



Figure 11. L-shaped bracket isolation foam

5. After installing the L-shaped bracket, attach the controller and the sensor mounting. Place the sensor mounting to the horizontal bar (as shown on the left diagram below) and then tighten it with Allen key #4 (right diagram below).

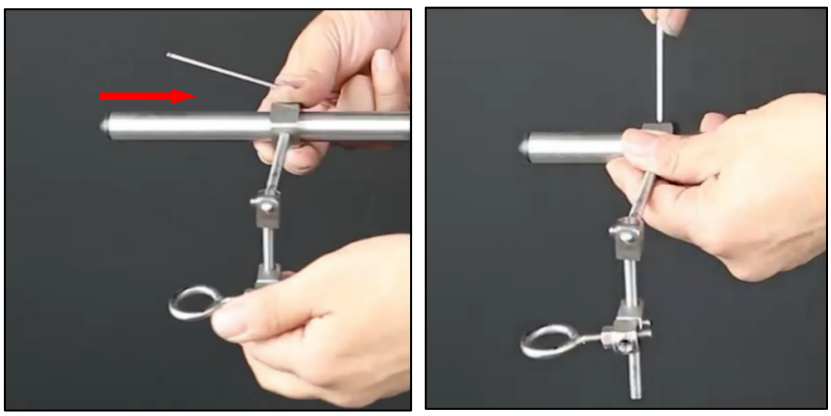


Figure 12. L-shaped bracket sensor

6. Mount Hx Nitro to the horizontal bar. Use Allen key #3 to tighten.
7. Place the sensor properly to the sensor mounting module and tighten the nut.



Figure 12. Sensor installation

8. Attach the sensor connector to the controller and tighten the screws with a screwdriver

## *Perform first print test*

To perform an initial print test for your Hx device, please follow the instructions below:

1. Turn on the device using the power button and wait for the device software to load.



Figure 13. Print Test

2. Remove the cartridge cover and insert the cartridge into the machine.
3. Close the device handle.
4. Press the Print Test button once and then immediately pass a sheet of paper in front of the nozzles.
5. The machine should print a test pattern similar to the image below.

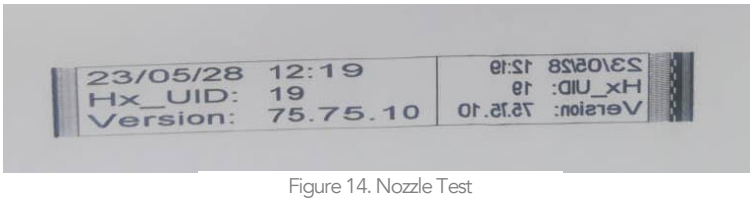



Figure 14. Nozzle Test

6. To clean the nozzles, press and hold the Print Test button for 3 seconds to start the cleaning process.



Figure 15. Purge

# MESSAGE DESIGN & MONITORING SOFTWARE

## *Introduction to Hx Manager*

Hx Manager is a software application designed for Hx printers that allows users to access real-time data and perform tasks such as calibration and data transfer. This application can be accessed on any smart device connected to the same Wi-Fi network as the Hx Nitro, including smartphones, tablets, and computers. With Hx Manager, users can easily monitor and maintain the performance of their Hx Nitro device.

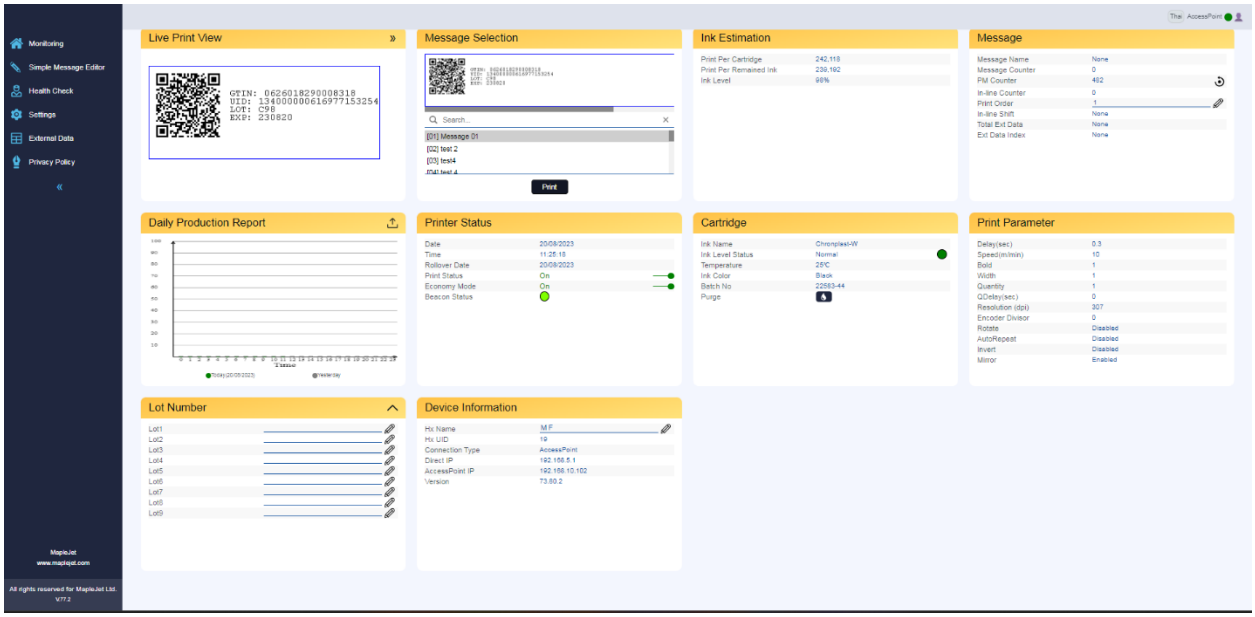



Figure 16. HX Manager Monitoring Page

Hx Manager has seven (5) Main Pages

- Monitoring
- Simple Message Editor (SME)
- Health Check
- Settings
- External Data

## *Accessing Hx Manager Interface*

To access the Hx Manager interface, follow these steps:

1. Connect your smart device to the Hx Nitro Wi-Fi network. To find the Wi-Fi SSID, check the printer's OLED display to get the Unique Identification (UID) number. The Wi-Fi SSID will be in HX_XXXX format, where XXXX is the UID number. For example, if the UID number is 19, the Wi-Fi SSID would be HX_19.




Figure 17. OLED Display with UID 19

2. Proceed to your smart device's Wi-Fi settings and connect to the corresponding SSID. The password for the Hx Nitro Wi-Fi network is 123456789.
3. Open your web browser and enter the following IP address in the address bar: 192.168.5.1.

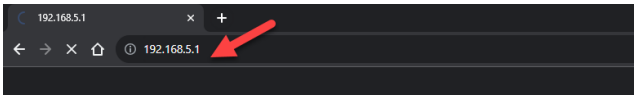



Figure 18. Default IP Address

4. In the login page, enter the default password: 123456 to load the Hx Manager interface.

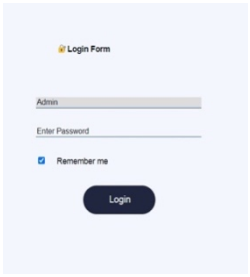



Figure 19. Login Form

# MONITORING PAGE

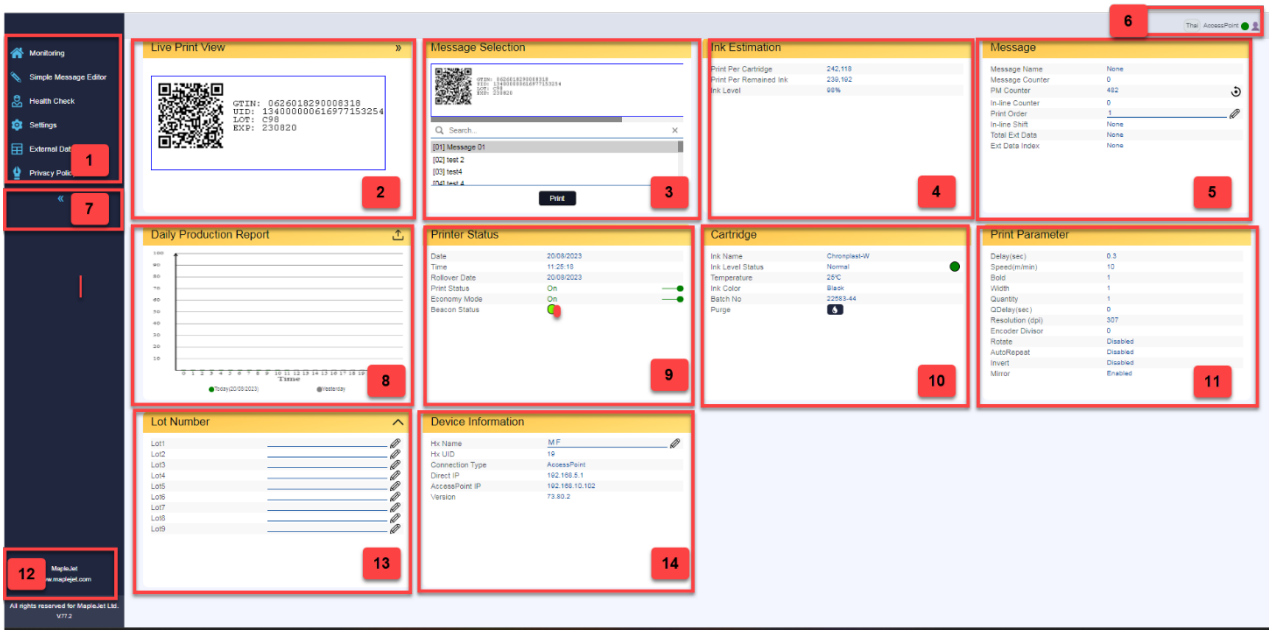



Figure 20. Monitoring

## 1. Toolbar

Hx Manager toolbar access menu

## 2. Live Print View

In the Hx N itro printer, the "Live Print View" menu allows you to view messages being printed in real-time. This feature enables you to monitor messages as they are being printed, providing you with the confidence that the printer is functioning correctly.

Extend Container button

Clicking this button will increase the width of the container and provide the user with a larger viewing area.

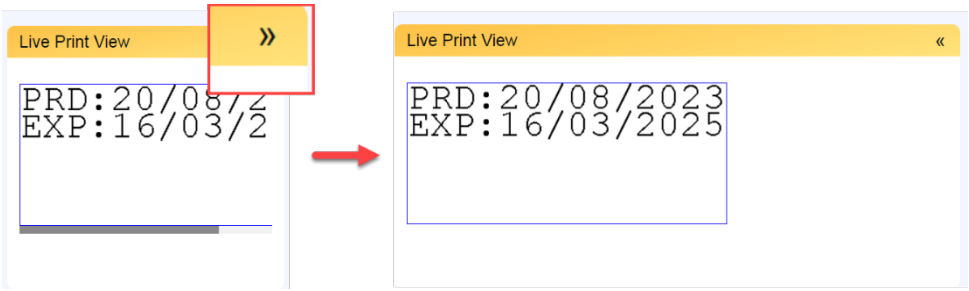



Figure 21. Live Print View

## 3. Message Selection

The users have the ability to select any saved messages for printing without the need for editing them from the Simple Message Editor (SME). This feature allows users to quickly and easily select the desired message from the list of saved messages and send it to the printer for printing. By providing a preview of the message, users can verify that the correct message is being printed before sending it to the printer.

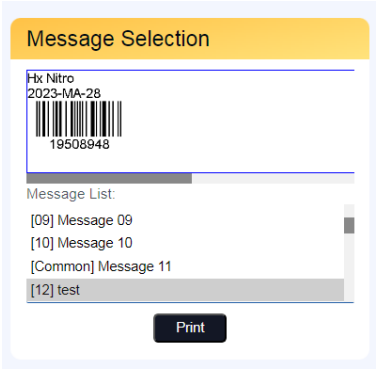



Figure 22. Message Selection

## 4. Ink Estimation

This feature provides users with real-time information on how many number of prints are remaining with the current printer's ink cartridge, allowing them to prepare on the next ink cartridge replacements.

**Ink level:** The unit of measurement of this item is percentage (%). When the ink level reaches exactly 5%, the "Ink Level" item will display the value of 5%, and if the ink level reaches below 5%, the exact numerical value will not be displayed. Instead, display "Less than 5%".

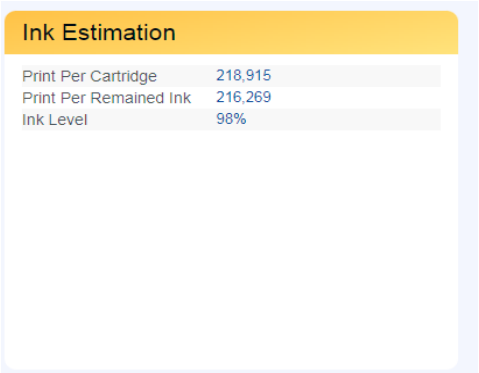



Figure 23. Ink Estimation

## 5. Message

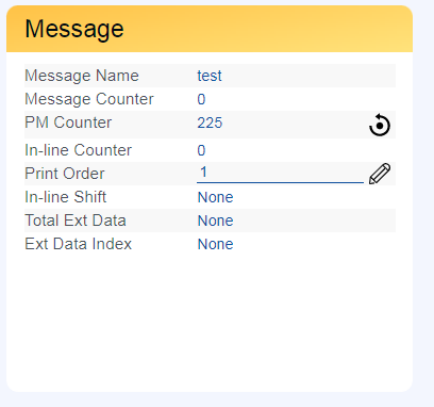



Figure 24. Message

- **Message Name :** Name of the current print message
- **Message Counter :**To show how many times the current message has been printed (resets to zero when sending a new message)
- **PM Counter :**Displays the total number of printed messages

To reset the PM Counter, follow the steps below.

1. Click on the button pointed by the arrow.

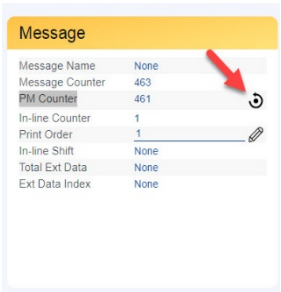



Figure 25. Reset the

2. Click the "OK" button.

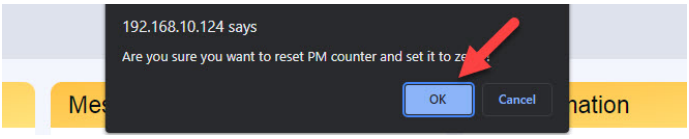



Figure 26. Reset the PM Counter

- **In Line Counter:** Displays the counter value that is used in the current message
- **In Line Shift**: When 'Shift' is added in the painting message
- **Print Order:** This item is added on the "Message" container in monitoring page, and allows user to set the order of print. It moves the counter value forward based on the desired print number. For example, if the print order value is 100, it means the counter has to print 100 times and so forth.
- **Total Ext Data**: Displays the total number of uploaded batch external data records.
- **External Data Index:** Displays the number of printed batch external data records.
- **External Data:** Displays the contents of batch external data

## 6. Manage User Password

To ensure the security of your Hx Manager interface, it is necessary to protect it with a password.

Follow these steps to change your Hx Manager password:

A. Launch the Hx Manager software and click on the "User Password Management" option located at the top right corner of the screen.

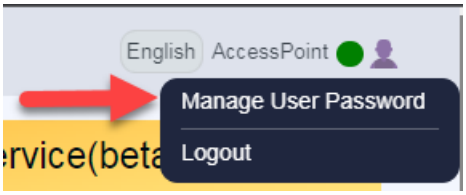



Figure 27. Manage User Password

B. The password management page will appear. Enter your preferred password in the "New password" field and re-enter it to confirm in the "Confirm New Password" field.

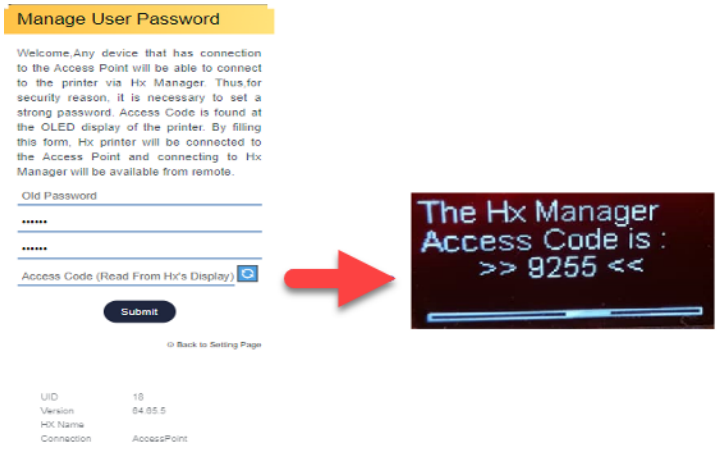



Figure 28. OLED

C. To complete the setup, an "Access Code" is required. This code will appear on the Hx Nitro printer's OLED display. Take note of the code and enter it into the "Access Code" field located on the password management page.

D. Click on the "Submit" button to save the changes and update your password.

## 7. Collapsible Sidebar Menu

A collapsible sidebar menu is available to users in the Hx Nitro printer's Hx Manager interface,. This menu can be minimized or expanded by clicking on an icon located on the sidebar.

When the icon is clicked, the sidebar menu's width will be minimized, and only the logos/icons of the menu items will be displayed.

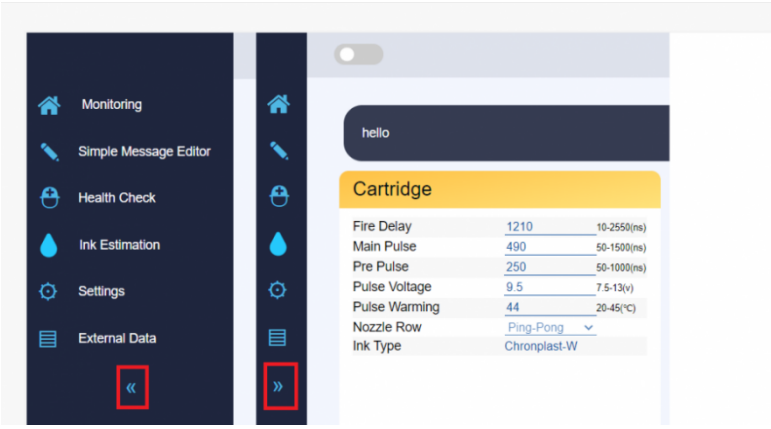
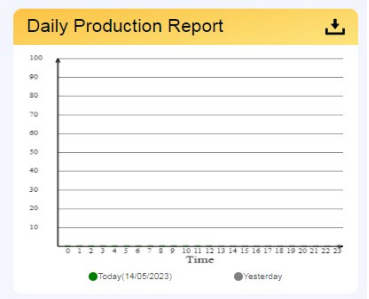


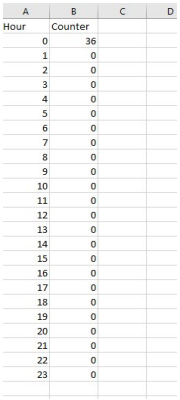

Figure 29. Collapsible Sidebar Menu

## 8. Daily Production Report

The Daily Production Report displays data from the last hours of the previous day (shown in gray) and the current day's rate (shown in green).

In addition to viewing this information on the monitoring page, users can also export a report in Excel format by clicking on the "Daily Production Report" button. This feature allows users to easily access and analyze production data, helping them to identify trends and make informed decisions about their printing processes.



| Hour | Counter |
|---|---|
| 0 | 36 |
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 0 |
| 5 | 0 |
| 6 | 0 |
| 7 | 0 |
| 8 | 0 |
| 9 | 0 |
| 10 | 0 |
| 11 | 0 |
| 12 | 0 |
| 13 | 0 |
| 14 | 0 |
| 15 | 0 |
| 16 | 0 |
| 17 | 0 |
| 18 | 0 |
| 19 | 0 |
| 20 | 0 |
| 21 | 0 |
| 22 | 0 |
| 23 | 0 |

Figure 30. Daily Production Report

## 9. Printer Status

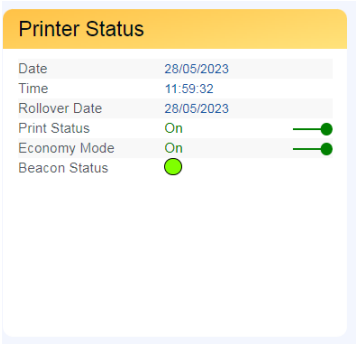



Figure 31. Printer Status

- **Date:** Device Date
- **Time:** Device Time
- **Rollover Date:** Allows the printer to override the actual date and time and insert custom data as needed. This feature is especially useful in situations

where the printer needs to print messages with a specific date and time, even if it does not match the actual time and current date.

- **Print Status:** Turns the print On and Off.
- **Economy Mode:** It sets the entire controller system into economy mode printing which reduces ink consumption up to 50%, doubling print quantity.
- **Beacon Status:** Displays Beacon color to identify the print status.

## 10. Cartridge

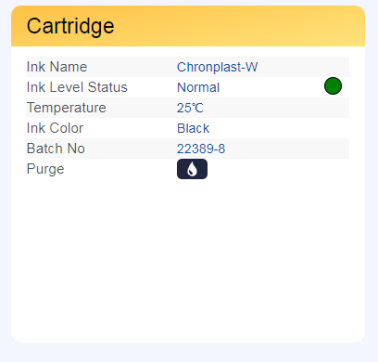



Figure 32. cartridge

- **Ink Name:** Displays the inserted cartridge's ink name
- **Ink Level Status:** Displays the ink level status based on the remaining ink in the cartridge:
  - **Normal:** More than 20% ink left
  - **Low Ink:** 10% ~ 20% ink left
  - **Critical Low Ink:** Less than 10% ink left
- **Temperature:** Shows cartridge temperature
- **Ink Color:** Displays ink color
- **Batch No:** Displays the ink's batch number
- **Purge :** This is used to clean and open the nozzles

## 11. Print Parameters

Displays the print parameters currently set for the selected message.

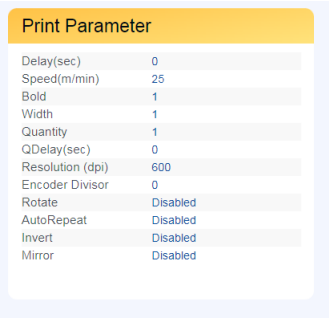



Figure 33. Print Parameters

## 12. Distributor Name




Figure 34. Distributor

The "Distributor" menu shows the name of the registered distributor of the printer. This feature is important because only approved cartridges with distributor name can be used with the printer. For more information about CTS, contact technical@maplejet.com.

## 13. Lot Number

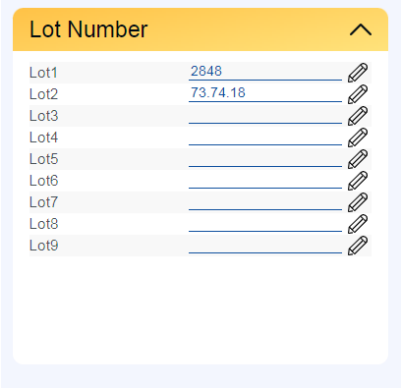



Figure 35. Lot Number

Allows users to enter and edit lot numbers for their print jobs. This feature is important for industries that need to track large numbers of their products, such as food and pharmaceuticals.

## 14. Device Information

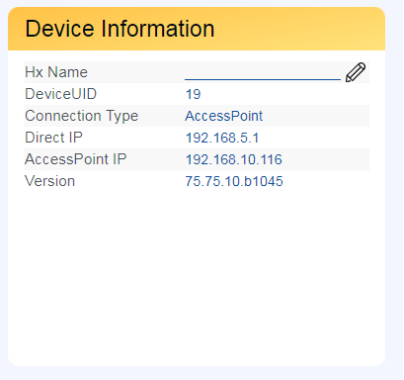



Figure 36. Device Information

In this section, the following items can be viewed

- **Hx Name –** When a name is assigned to the printer, it will be displayed in this field
- **Hx UID -** Device serial number
- **Connection Type-** Wi-Fi connection Type: Direct Wi-Fi or through an Access point
- **Direct IP -** Direct Wi-Fi IP Address (when your smart device is connected directly to Printer's Wi-Fi, use this IP to access Hx Manager)
- **IP Access Point -** Access point IP Address (when your smart device is connected to your network through an access point, use this IP to access Hx Manager)
  - **Version:**

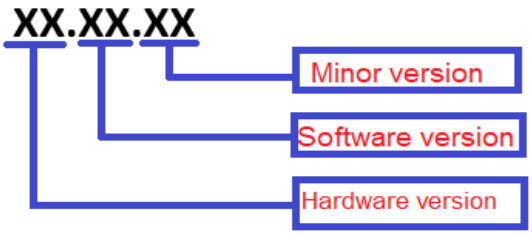



Figure 37. Version Software

# SIMPLE MESSAGE EDITOR (SME)

A simple message design tool to easily design messages.

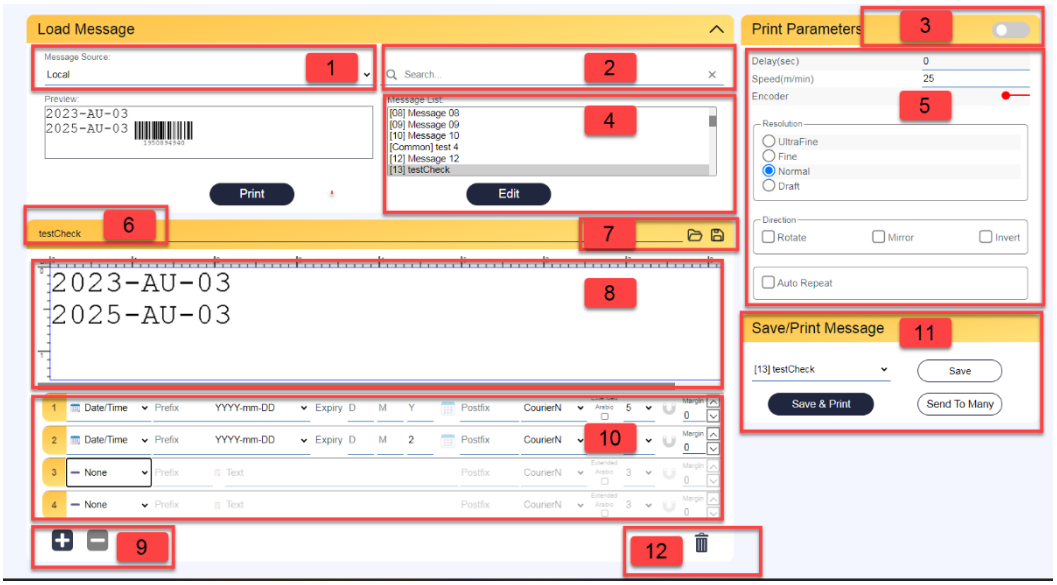



Figure 38. Simple Message Editor

Simple Message Editor has 12 parts:

## 1. Message Source

Users can specify the source of the message. This can be either "**Local**" which refers to messages saved on the device, or "**Online Library**" which refers to messages accessed from an online library.

## 2. Search message by name

The search box allows users to easily search messages by entering the text.

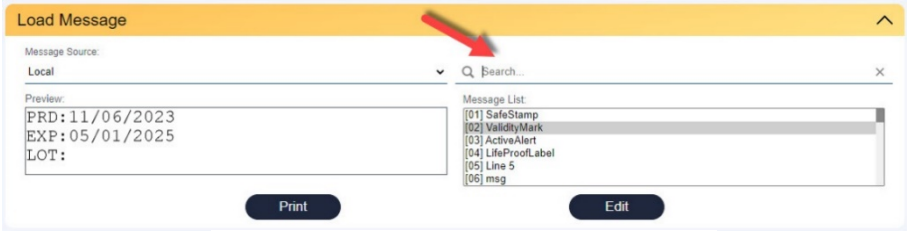



Figure 39. Simple Message Editor Search Tab

## 3. Advanced/Basic mode

It allows users to switch between basic and advanced mode. This feature is available on both the Settings page and Simple Message Editor pages.

**In Basic mode**, users have access to a simple interface that offers only the most essential settings and options. This mode is ideal for users who are new to the printer or prefer a simpler user interface.

**In advanced mode**, users have access to a wider range of settings and options that provide more control over printer performance. This mode is ideal for users who need more advanced features and options or are experienced printer operators.

## 4. Message List

Message list displays a list of saved messages on the device. Users can select a message from the list to edit or create a new message.

In addition, the Message List also includes a "Common Message" section. This refers to the "Message #11" below, which is a pre-designed message that is commonly used for the "Send To Many" feature.

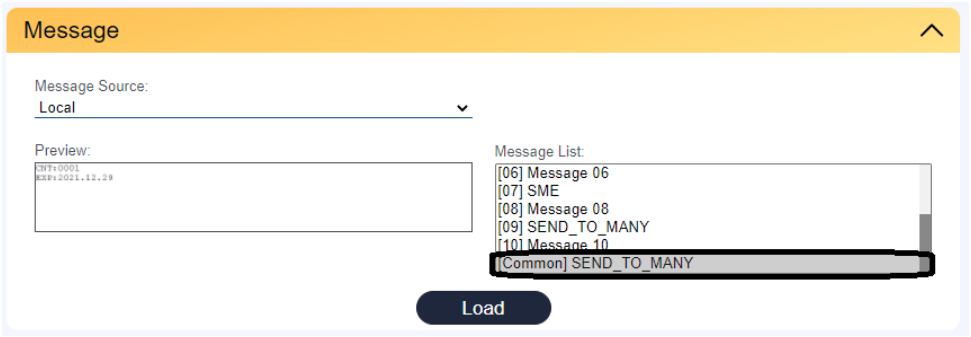



Figure 40. Send to Many

## 5. Parameters

The Print Parameter Settings include the following sections:

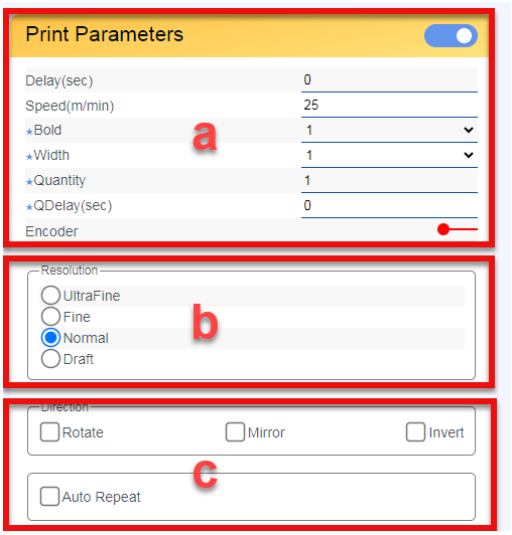


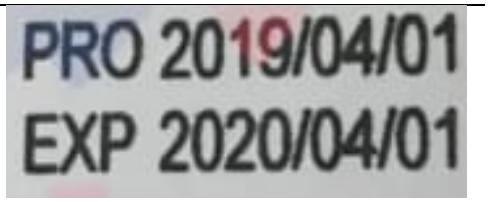
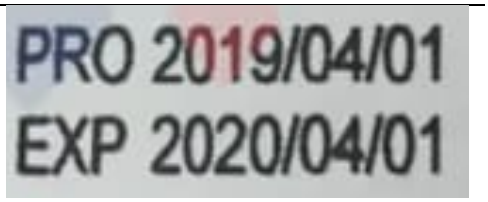
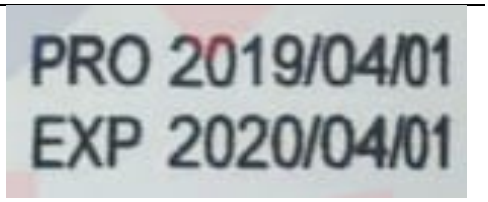

Figure 41. Parameter

### a. *Print Setting*

- **Delay:** The delay value is the time interval from the print sensor trigger to the printhead (for printing).
- **Speed:** Print speed value and must be set exactly as the product/production line speed
- **Bold:** Print boldness value. A higher value will increase print boldness (and ink consumption).
- **Width:** Print width factor. A higher value will increase the print width.
- **Quantity:** Print quantity per print sensor pulse
- **Quantity Delay:** The delay value between each impression if print quantity is enabled
- **Encoder:** Enable/Disable encoder

### b. *Resolution Mode*

Resolution is a concept that defines print quality:

| Resolution Mode | Description | Sample |
|---|---|---|
| Ultrafine | This is the maximum deliverable resolution (DPI) in selected print speed, so this is not fixed and depends on print speed |   |
| Fine | The resolution (DPI) in this mode is 20% less than the "Ultrafine" mode |   |
| Normal | The resolution (DPI) in this mode is 20% less than the "Fine" mode |   |
| Draft | The resolution (DPI) in this mode is 20% less than the "Normal" mode |   |

**Notes:**

It is important to note that while higher resolution (DPI) results in higher print quality, it also comes with some trade-offs. Higher resolution requires more ink consumption, which means that there will be less print quantity per cartridge. Additionally, higher resolution printing may take longer to dry, which can affect production speed and efficiency.

Therefore, when choosing the resolution mode, users should consider their specific requirements and balance the trade-offs between print quality, ink consumption, and production speed.

### *c. Direction*

Applies the options below to the entire message content:

- **Rotate:** Rotates the message by 90 degrees, allowing users to adjust the orientation of the message as needed.

- **Mirror:** Prints the message in the reverse direction. This option is useful if the production line is moving in the opposite direction of the print.
- **Invert:** Inverts the print orientation.
- **Auto-Repeat:** Keeps printing the message with the set delay, unless the Sensor trigger is removed. This option is used when the same message needs to be printed repeatedly.

## 6. Message name

This is the name given to the message being created or edited. It helps users identify and manage their messages in the Message List.

## 7. Save And Upload Message

The save and upload buttons can be used to save and upload the message from the local memory.

- The **Save** button enables users to save the current message in the editor as a ".hxmsg" file format in local storage.
- The **Upload** button allows users to upload the saved file in the editor, and then the user is able to edit, save and print it.

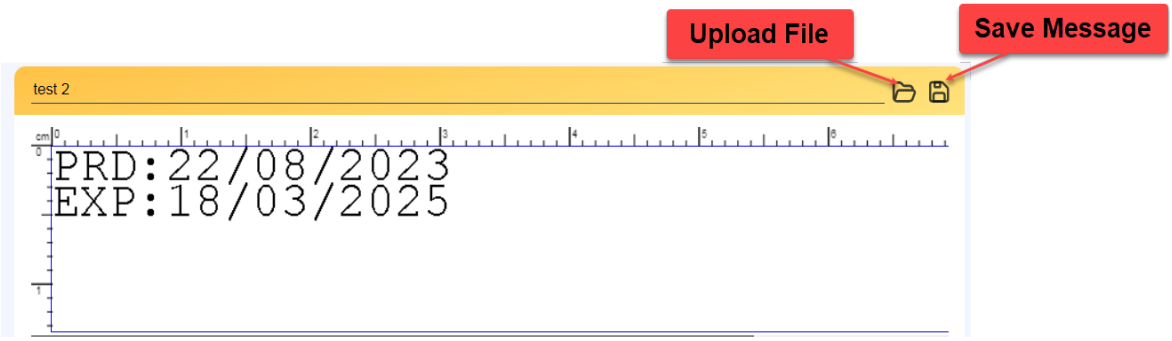



Figure 42. Save And Upload Message

## 8. Message preview

This feature provides a preview of the selected message, allowing users to see how it will appear when printed. This helps operators ensure that the message printing is correct.

## 9. Multi object

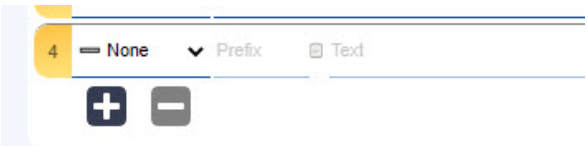



Figure 43. Multi Object

This feature enables users to select and design more than four objects in their message. A new object can be added to the message by pressing the "+" button, and an object can be deleted by clicking the "-" button.

Moreover, the number of lines can be increased by using advanced commands and enabling the SME Extended Mode.

### How to Increase the number of lines

a. After the IP address of the device, enter the command " cmd%exe@extendsme$en% " in the URL.

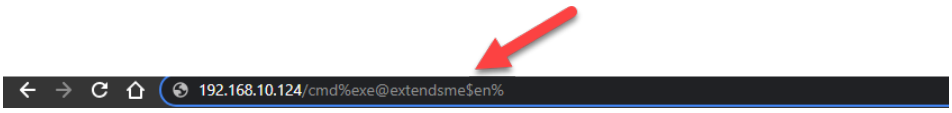



Figure 44. Increase the number of lines

b. Restart to reflect the changes.




Figure 45. SME editor showing line 25

**Note:** The maximum number of lines is 25 lines.

## 10. Message Design

The Simple Message Editor provides users with a data entry section for message design. This section includes a variety of available objects that users can use to design their messages. These objects include:

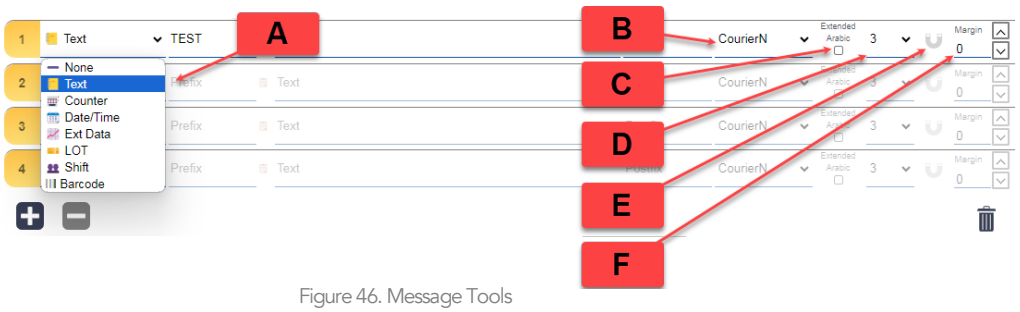



Figure 46. Message Tools

### a. *Data Object*

Each line of data can be selected from these items: Text, Date, Counter, Date and time, External data, LOT, Shift, and Barcode. This allows users to customize the content of their message based on their specific requirements.

### b. *Font Type*

This feature allows users to select the font type for their message. The available font types can be customized based on the user's preferences

### c. *Extended Arabic*

The "Extended Arabic" checkbox is added for each field, allowing users to display digits in Arabic style. This option is available for all objects except for "Barcode". Note that this option is only shown if one or more selected fonts are Arabic/Persian.

### d. *Font Size*

This feature allows users to adjust the font size for their message.

### e. *Relative position*

With this option, users can change each line's location in the message. This feature is particularly useful when designing messages with multiple lines of text or objects.

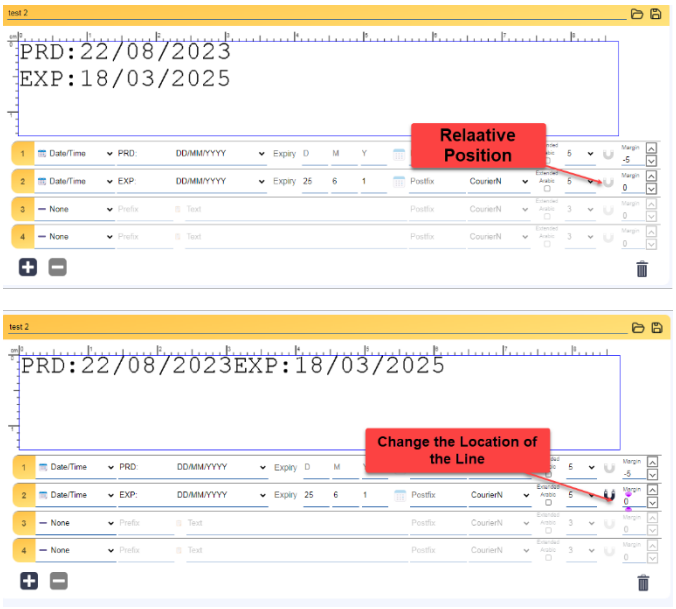



Figure 47. Relative Position

## f. *Margin*

Adjusting the margin modifies the vertical distance between each line in the text, enabling users to personalize the spacing between lines according to their preferences.

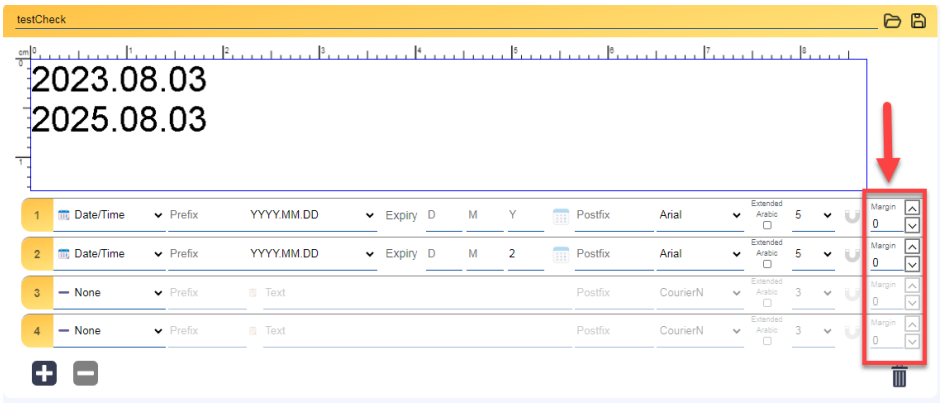



Figure 48. Margin

If a negative value is entered in the margin field, the selected line moves upward.

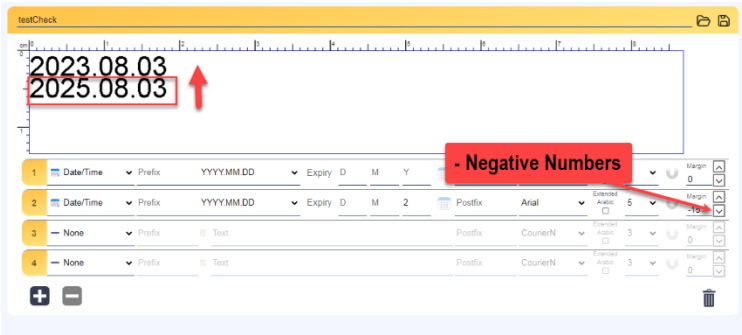



Figure 49. Negative Margin

If a positive value is entered in the margin field, the selected line moves downward.

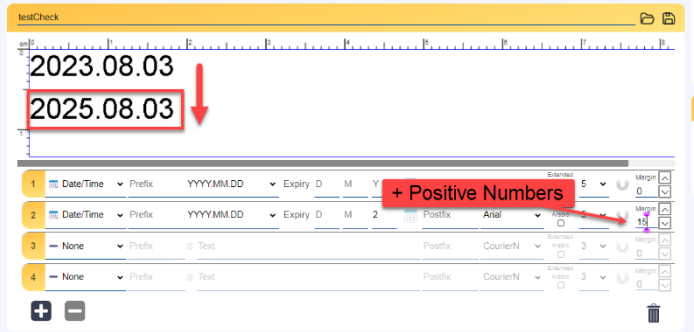



Figure 50. Positive Margin

## 11. Save Message

By selecting the "Save Message" feature, users can make the necessary changes to an existing message and then save it over another message. This process saves time by avoiding the need to design a new message that is very similar to an existing one.

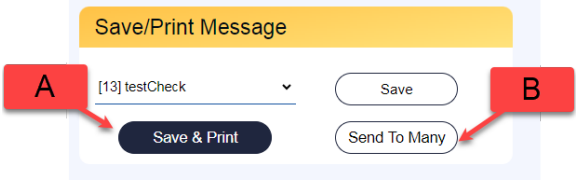



Figure 51. Save

### a. Save & Print

By clicking this option, the current message of the edit page is saved in the device and sent for printing.

### b. Send To Many

The Hx Nitro printer's Simple Message Editor provides users with the "Send To Many" feature, which allows users to design a message once and send it to other online Hx printers on the same network. This feature is particularly useful in production environments where multiple printers are used to print the same message.

By selecting the "Send To Many" feature, all available Hx printers in the same network are scanned and displayed in the interface. Users can then select the desired the printer to send the message.

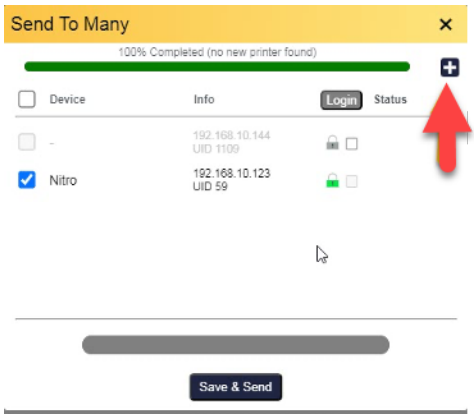



Figure 52. Send To Many

**Logging in.** First, the operator needs to login into the device. When the login process is done successfully, the "Send" check box will be available in the left side of the interface.

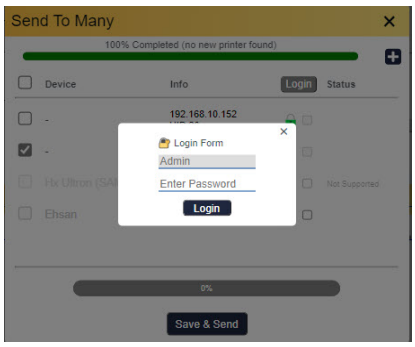



Figure 53. Login

- Follow the same steps to log in the other devices you need to send the same message.

Notes: When a new printer is added to the Network recently, it will be found by scanning it or by clicking the add (+) button (A) as shown below. When a printer is not logged in, the row will be disabled by default.

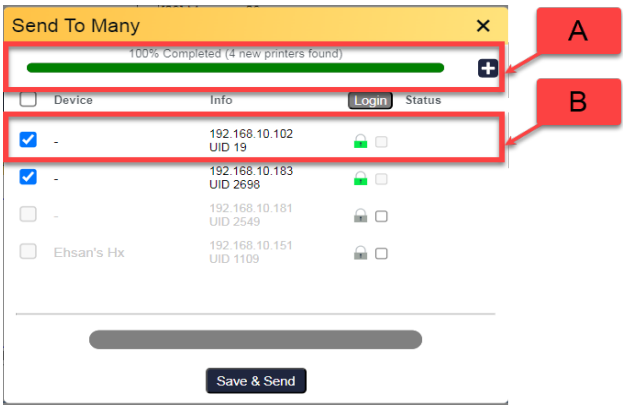



Figure 54. Add And login

**Batch Login:** When the password of the printers is the same, the operator can select the printers and login into them at the same time. To do that, check the corresponding box of the printer and the 'Log in' button will display. Enter the same password in the same window and click on "login" button.

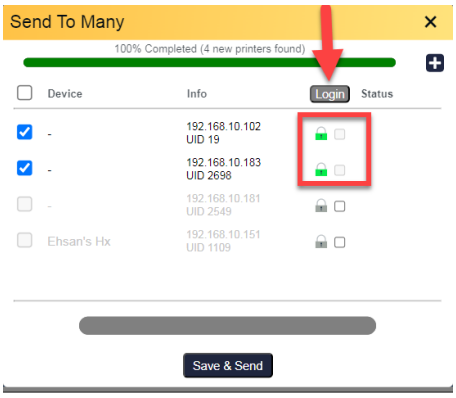



Figure 55. Log in

**Not Supported Hx Printer:** In case that Hx printer does not support "Send To Many" feature, the row related to that is disabled as shown below.

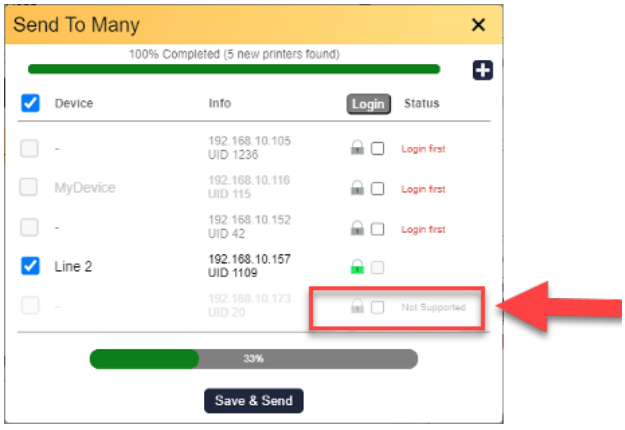



Figure 56. Not Supported

**Logout:** When logging out from Hx Manager, the saved passwords will be removed from browser's storage and users need to login again for authentication reason.

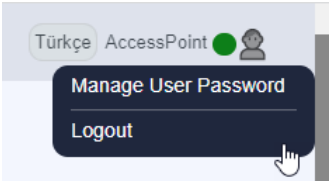



Figure 57. logout

**Common Message:** Message #11 is a common message that is used for the "Send To Many" feature. Designed message will be saved in "[Common]Message 11" automatically whenever "Send To Many" feature is used.

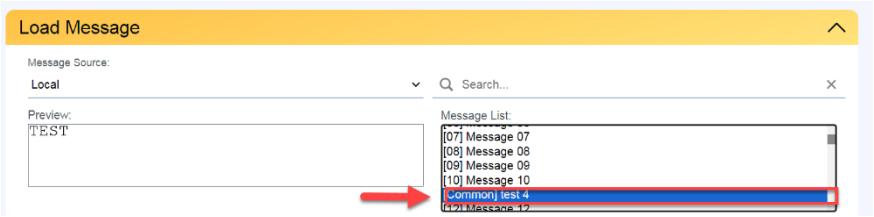



Figure 58. Common Message

## 12. Reset

All contents of the current message will be deleted

## Online Message Library

This feature enables users to select standard and variable templates then edit and save them in the Simple Message Editor's message library.

Log in to Simple Message Editor

From the Message Source menu, select Online Message Library

By selecting any templates, a related preview will be shown in the preview window on the left side

Note: To use this feature, the printer must be connected to the Internet.

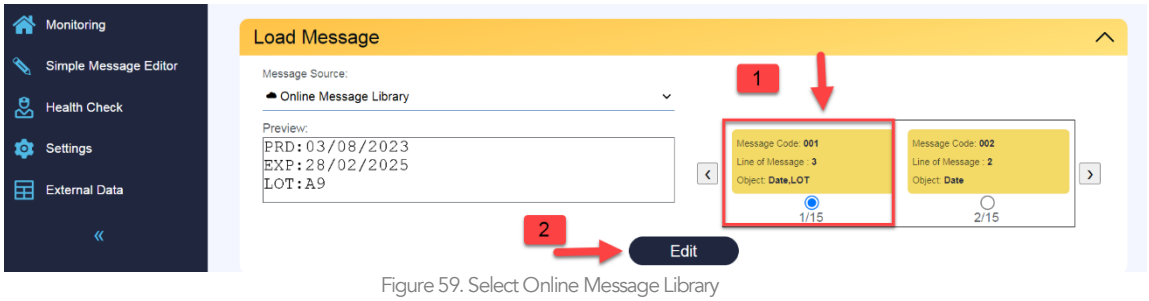



Figure 59. Select Online Message Library

By pressing the "Edit" button, the selected template will be loaded in the message editor window, and will be ready for edit.

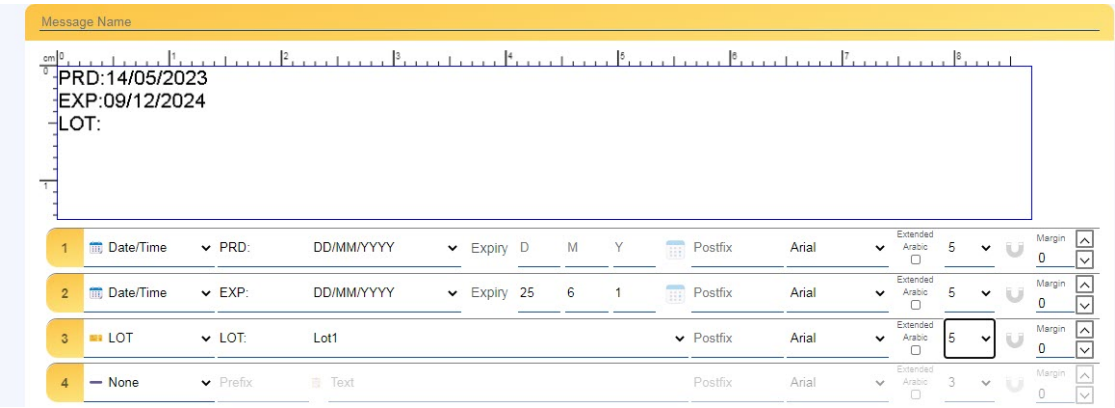



Figure 60. Edit Message

The 'Save & Send' button allows to save the message in Local memory and send it for printing. The 'Save' button only saves the message to the selected template or message slot.

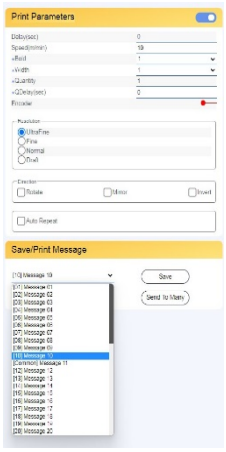



Figure 61. Save Message

# MESSAGE DESIGN

## 1. Designing Production/Expiration Date

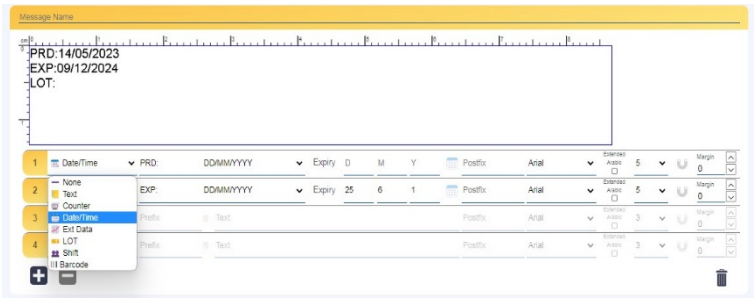



Figure 62. PRO & EXP Date

To add a production or expiration date to your printer message, follow these steps:

1. Go to the message selection drop-down menu and select "Date and Time." The first row will automatically change.
2. Add "PRO:" or "EXP:" in the 'prefix' section depending on whether you want to add a production or expiration date.
3. Set the date format, font type, and font size according to your preference.
4. For the production date, there's no need to adjust the date and time since it will be in real-time.
5. To add an expiration date, adjust the duration based on year, month, and day.

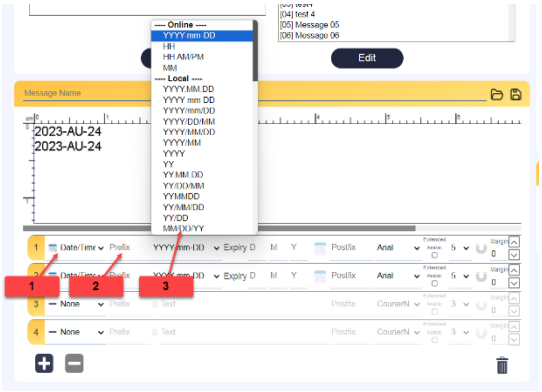



Figure 63. PRO Date

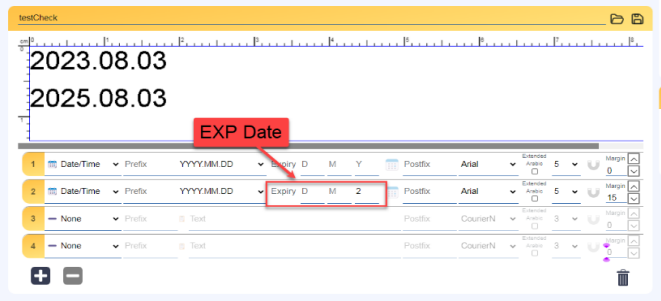



Figure 64. EXP Date

## 2. *Adding a* Custom Date/Time

By selecting "Custom" from date format list, the operator will be able to define a custom date or time.

- Select the desired code format from the left side table
- Click the selected code format to add on the "Format"textbox.
- Operators will also be able to add a constant value between the formats.

**To add new custom date do follow steps:**

1. Select Date/Time object
2. From Date format list select "Custom"
3. Click on "date icon"
4. Click on textbox below "Enter Code:"
5. Then click on desired format from the table, for example "MM"
   Result Format Ex: M/DD/YY

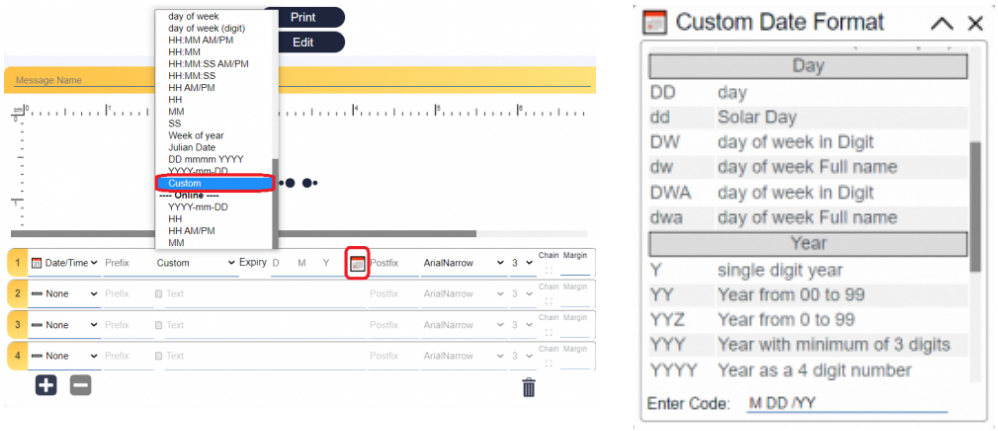



Figure 65. Custom Date/Time

## 3. Designing Counter

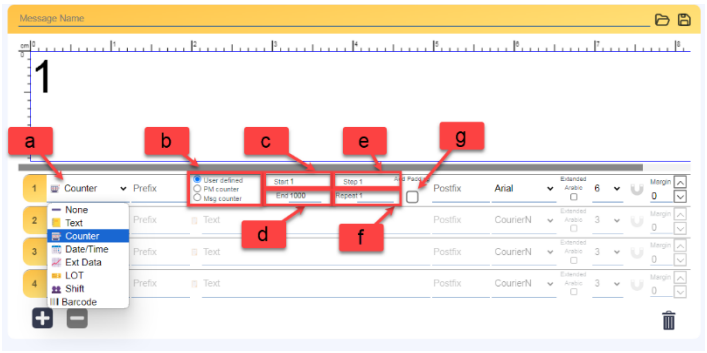



Figure 66. Counter

To design a counter, follow these steps:

a. Select the counter option from the drop-down window.
b. Specify the source of the counter.

**User defined:** The value is defined manually by the user.
**PM counter:** The value is based on the total number of prints made.
**Msg counter:** The value is based on the number of messages printed.

c. Enter the starting value of the counter.
d. Enter the end value of the counter.
e. Set the step value of the counter.
f. Enter the repetition value for each counter.
g. A user can add zero before counter's digit or ignore it by selecting "Add Padding" or vice versa.

## 4. Designing Online External Data

**a.** Set the source to EXT Data
**b.** Set the EXT Data type to online
**c.** If necessary, specify the desired index.
***d.*** Users can select individual columns from external data, whether online or in batches, even if they are not in a sequential order. However, in some cases, users may require a specific column, like column 50, that is not included in the generated profile. To

tackle this problem, users now have the ability to manually specify the index value, with the default value set to 1 and a range between 1 and 100. Simply choose the desired format.

*e.* Select font size.

*f.* Then set the print parameters. Click the Save & Send button.

Then, accrding to the communication port (Wi Fi, RS-232, or USB), set the desired settings.

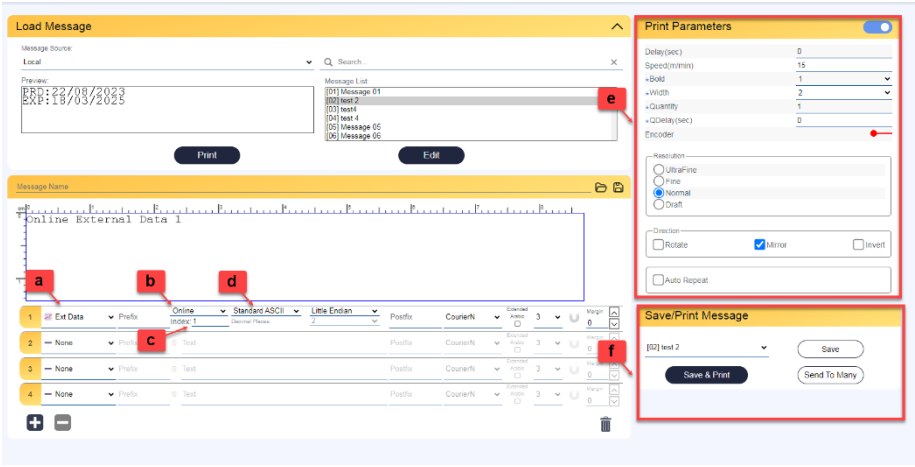



Figure 67. Online Data

## g. Designing Batch External Data

To use the batch external data, follow the steps below:

**Part I (Message design):**

a. Set "Source Message" to EXT Data and select "Batch" for its type. If necessary, adjust the desired index.
b. Select the desired font type and size.
c. Then set the print parameters.
d. Click the Save & Send button.

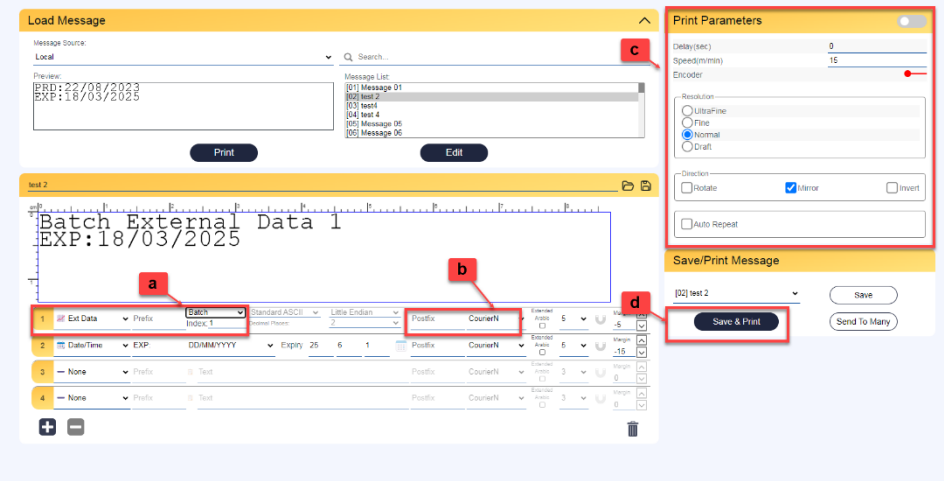



Figure 68. Batch Data

## Part II (Sending the Batch data):

The batch data should be sent through the External Data Page in Hx Manager. Click on the External Data tab from the left menu.

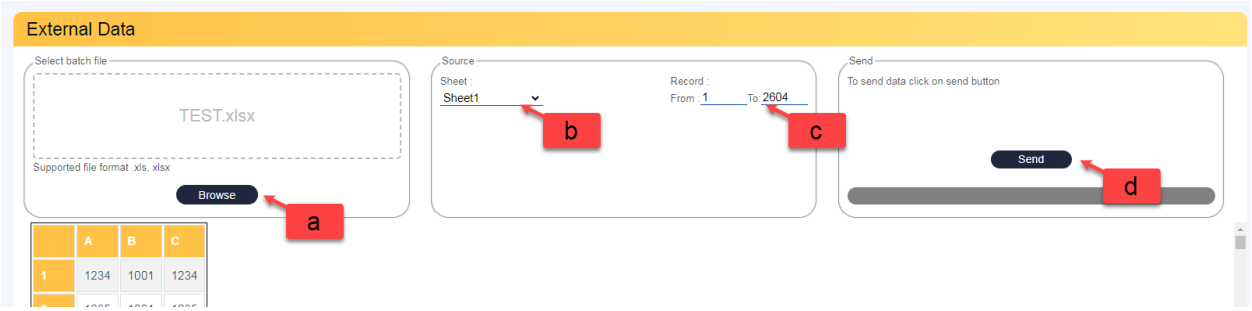



Figure 69. Batch Data

a. Attach your Batch file by clicking browse or dragging it to the file selection area. The Batch file accepts **.txt, .csv, .xls, and .xlsx** file formats.
b. Select the sheet from the file where the batch date will be extracted.
c. Select the rows you want to use.
d. Send the data by clicking the 'Send Button.'

**Note:** The batch file needs to be sorted/arranged according to the desired print order beforehand.

## h. Designing Lot Number

LOT is a variable object that can be set from the monitoring page. It allows the user to edit the message quickly (in just two clicks).

a. Select "LOT" from the objects list.
b. Select one of the LOT number containers from the field (0-9).
c. Select font type and size.
d. Adjust the print parameters.
e. Click the 'Save & Send' button.

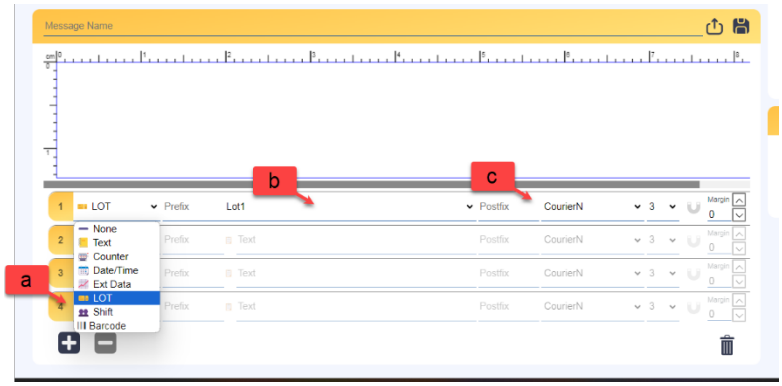



Figure 70. LOT Number

- To edit the LOT number, proceed to the monitoring page.
- Click the Lot Number drop-down arrow to display the LOT container list.
- Click "Edit" in the LOT number container you selected in the message design.
- Enter your number or text in the window, then click the send button.
- The print message is updated immediately based on the characters entered.




Figure 71. LOT Number Edit

## *i.* Designing Shift

The shift is a variable object that gets updated automatically based on the selected period of time or range of time. The printer time is used as the default reference for the shift's time.

a. Click Shift in the Message Tool section.

b. Click on Shift Setting to open the Shift Timing menu.

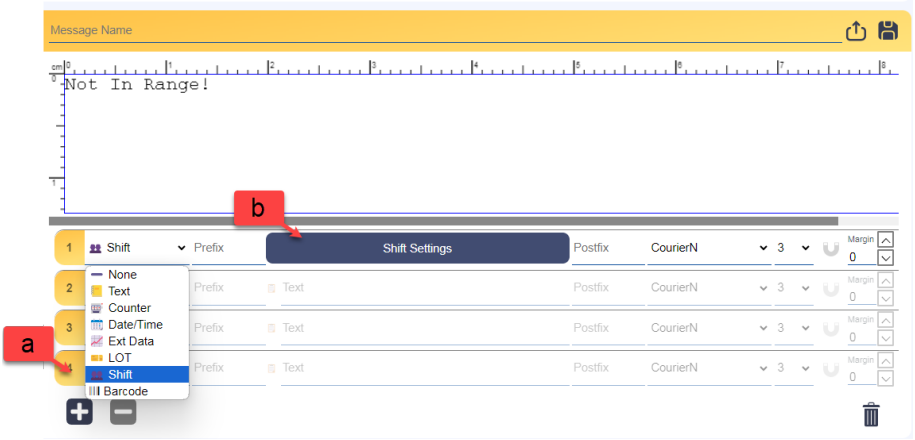



Figure 72. Shift

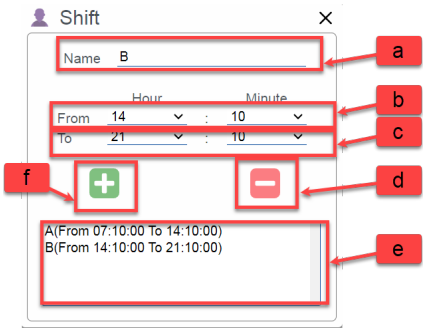



Figure 73. Shift Setting

a. Shift Name (this is will be added in the message for the desired period).
b. Start point (beginning of the shift)
c. Endpoint for (end of the shift)
d. Click the "X" key to remove a shift from the list
e. Click the "+" key to add a shift to the list
f. List of entered shift.

## j. Designing Barcode

To use barcode, select the barcode message from the toolbar:

| Type | | | |
|---|---|---|---|
| EAN8 | EAN13 | EAN128 | CODE39(Checksum) |
| CODE39 | EXTENDED CODE39(Checksum) | EXTENDED CODE39 | Code128 |
| UPC-A | ITF(Checksum) | ITF | ITF With Bearer Bar(Checksum) |
| ITF With Bearer Bar | ITF14(Checksum) | ITF 14 | ITF14 With Bearer Bar(Checksum) |
| ITF 14 With Bearer Bar | S20F5 | S20F5 With Bearer Bar | OneTrack PharamaCode |
| TwoTrack PharamaCode | DATAMATRIX | GS1DATAMATRIX | QR(Medium) |
| QR(High) | GS1QR_MEDIUM | GS1QR_HIGH | GSIDataBar Stacked |

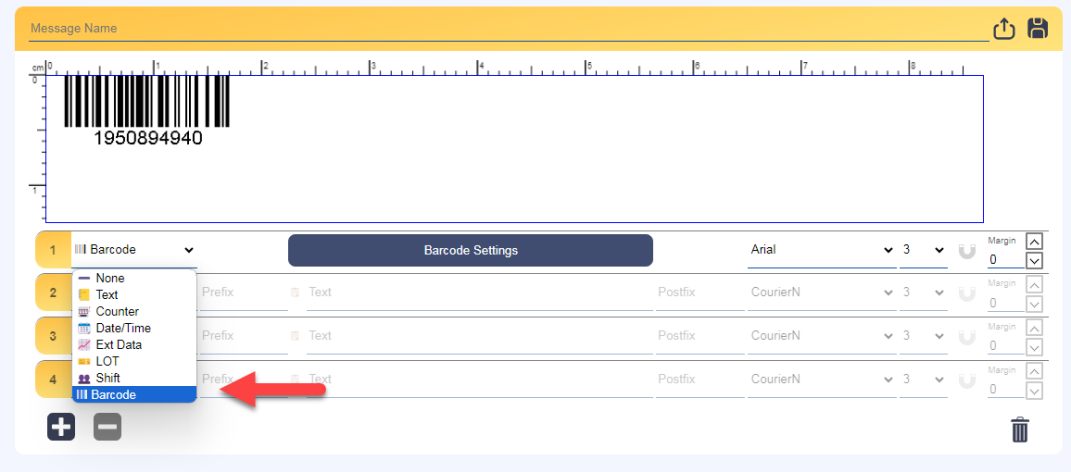



Figure 74. Barcode

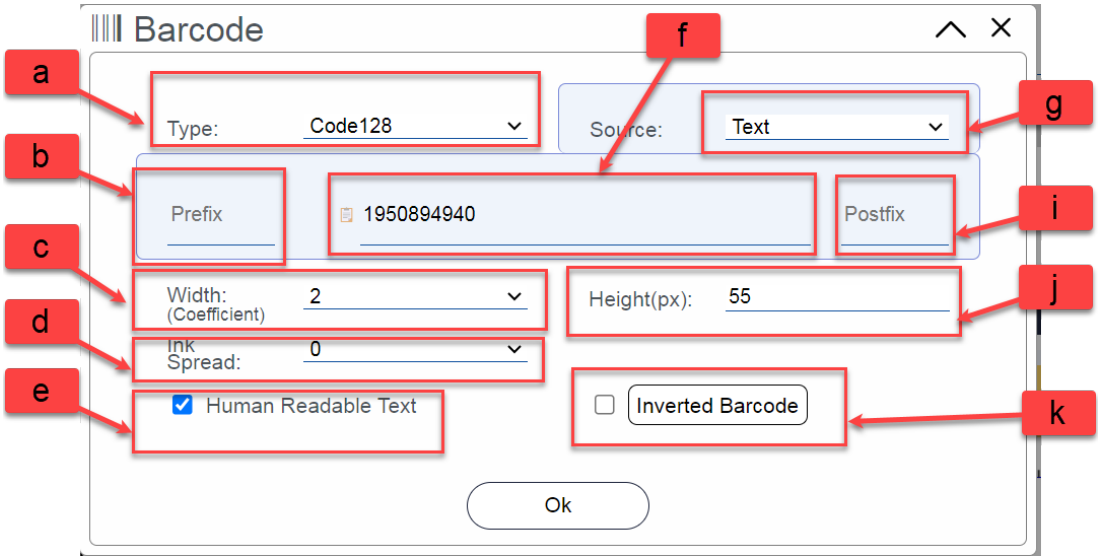



Figure 75. Barcode Setting

Click on the Barcode Settings section to enter data:

a. In this section, barcode type can be selected from the list
b. Enter the prefix (fixed part before barcode data)
c. Barcode width can be adjusted here
d. Use this option to adjust the ink spread
e. By activating this option, barcode entries (characters) will be printed too
f. Automatically adjust based on the barcode source e.g text line when Text is selected
g. Select the barcode source as Text, Counter, Time, and Date & External data.
h. Enter the postfix (fixed part after barcode data)
i. Use this option to adjust barcode height
j. When White ink is used, this option should be enabled

To change barcode text size and the font type refer to the image below:

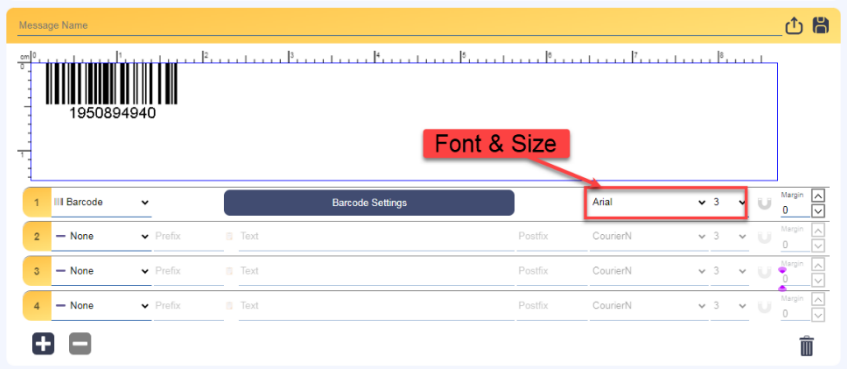



Figure 76. Font Size

Set the printing parameters and click on the Save & Send button.

## Barcode with Counter source

- Select the desired barcode
- Set the barcode source on the counter

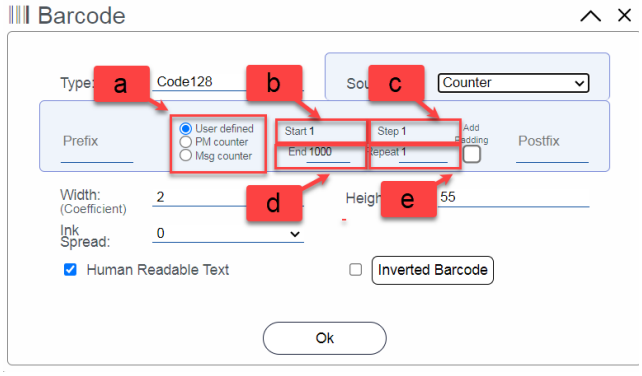



Figure 77. Setting Counter

a. PM Counter and Message counter- User Defined
b. Counter Start value
c. Counter End value
d. Counter increments

   Step 2 >> 6 -8-10…

   Step 3 >> 6-9-10…

e. The PM counter and message counter option are now added in counter field along with User Defined option

| *This value shows counter repetition per pulse, for example, pulse 3 means 3 prints of the same counter value* |
|---|

f. Adjust the height and width of the barcode
g. To change barcode text size and the font type refer to the image below:

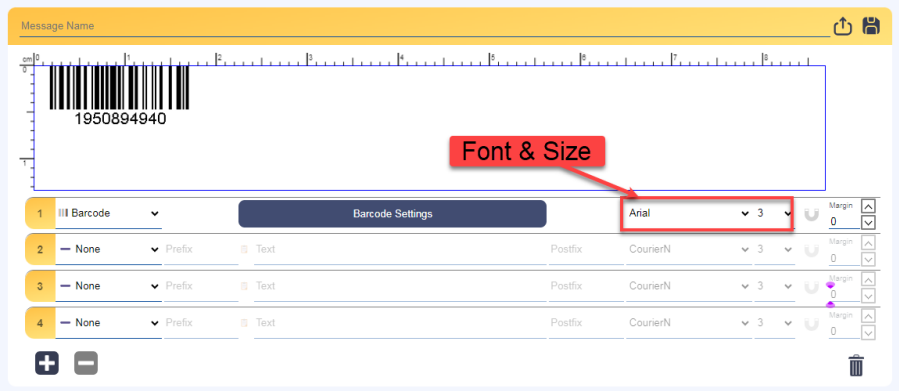



Figure 78. Font & Size Barcode

- Set the printing parameters and click on the Save & Send button.

## k. Barcode with Date source

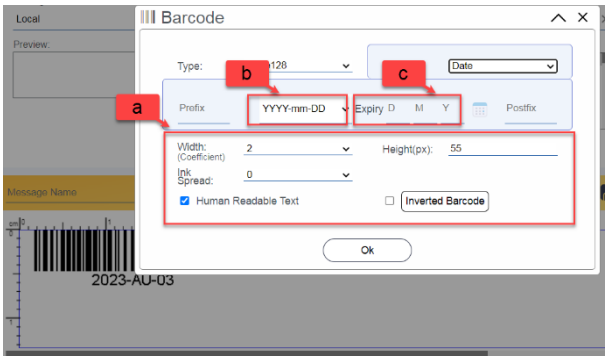



Figure 79. Setting Date

Select "Date" as barcode source

a. From the date format list, select the required date format
b. Enter the expiry date in the second section, if required
c. Enter barcode parameters
d. Select barcode font and size
e. Set print parameters and click on the "Save & Send" button

## I. Barcode with External Data Source

- **External Data Batch:**

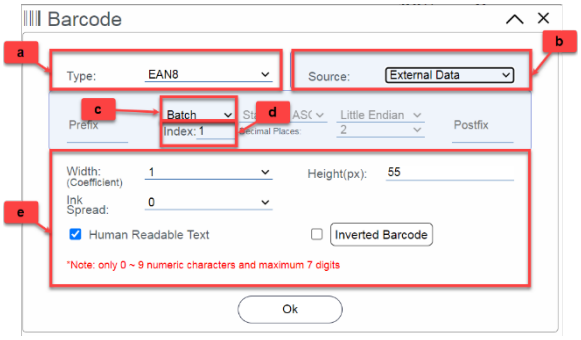



Figure 80. Setting External Data - Batch

a. Select the required barcode type from the list
b. Set the barcode source to external data
c. Enable the "Batch" option
d. Select the index
e. Enter barcode settings
f. Adjust the font and size of the message
g. Set the printing parameters and click on the Save & Send button.

- External Data Online:

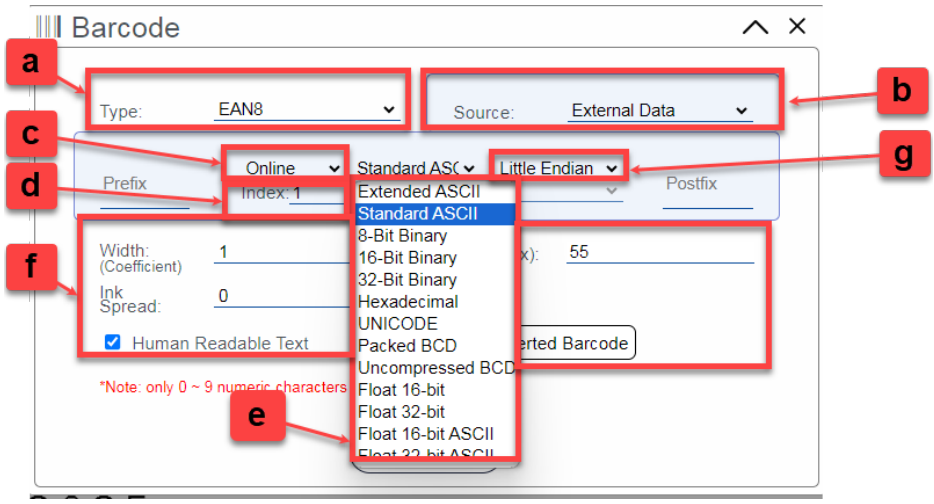



Figure 81. Select Barcode Standard

a. Select required barcode type from the list.
b. Set the barcode source to external data.
c. Enable "Online" option.
d. Select the index.
e. Select the communication protocol with the external device.
f. Each cell or memory cell has one 8-bit or one byte and an address number.

The following figures show the address space and the Little Endian and Big Endian methods. As shown, the first hexadecimal address number is 0x00000000 at the bottom of the memory array. Also, the following binary number is 1025, which contains 4 to 8 bits.

00000001 00000000 00000100 00000000 00000000

The rightmost byte, 00000001 is the LSB (or) and the leftmost byte is the MSB (or). Based on the first figure below, in the Little Endian method, the LSB bit is first stored in the memory cell (with a smaller address number). But based on the second figure below, in the Big Endian method, the MSB (leftmost) bit is first stored in memory (with a smaller address number).

g. Enter barcode settings.
h. Adjust the font and size of the message, set the printing parameters and click on the Save & Send button.

### *m. Designing GS1 Data Matrix barcode as Batch*

Select the GS1 Data Matrix from "barcode type" list

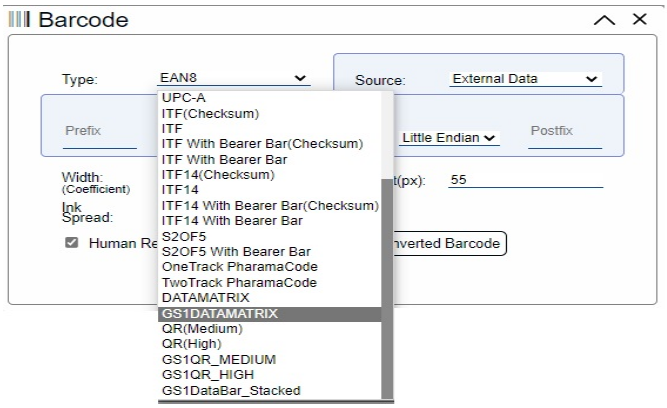



Figure 82. GS1Data Matrix

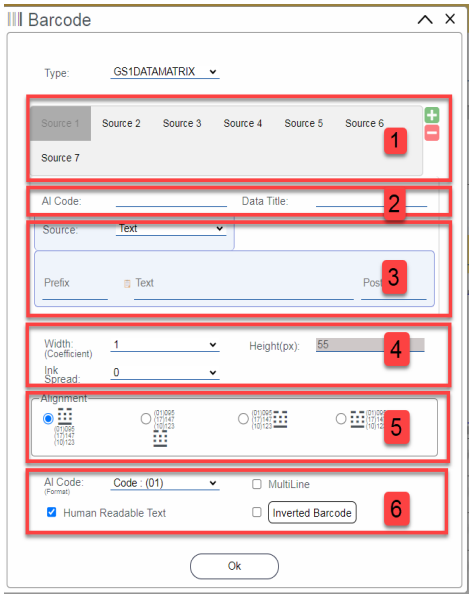



Figure 83. External Data Batch Setting

1. For the GS1 Data Matrix barcode, seven (7) sources can be recorded. By clicking on + icon, resources can be increased and by clicking on x, the function can be reduced.
2. When it is necessary, it is possible to record the standard information about the product such as production date, expiration date and so forth on the label along with the code GS1-13 of the product. In this standard, some of the most widely used supply chain characteristics, which have become functional identifiers (AI), along with the characteristic response, are recorded and stored next to the main pen code. Some functional IDs are shown below:

Application attribute title

- 01GTIN
- 11Production date
- 17Expiration date
- 21UID

3. Activate the Batch option. If necessary, select the index.
4. Adjust the height, width, and distribution of the barcode
5. Alignment the barcode
6. Specify the format of AI Code posts.

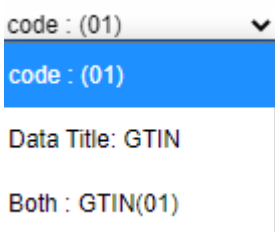



Figure 84.AI Code

**Multi-Line**: By activating this option, the barcode notes will be placed in several lines.

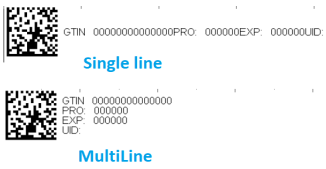



Figure 85. Multi-line & Single line

To send Batch external data through Remote Manager, refer to the External Data section.

- Select the message font and size
- Set the print parameters and click on the Save & Send button.

## *n. GS1 Data Matrix barcode with Online External data source*




Figure 86. GS1 Data Matrix Barcode online

a. Specify the number of barcode sources
b. Enter the AI Code of each resource
c. Enable the "Online" option (refer to "Online data" page for more information)
d. Adjust barcode height and width
e. Select preferred alignment
f. Select AI Code format

To send Online Data, refer to the Online Data section.

- Select the message font and size
- Set the print parameters and click on the Save & Send button

## o. Barcode with LOT Number Source

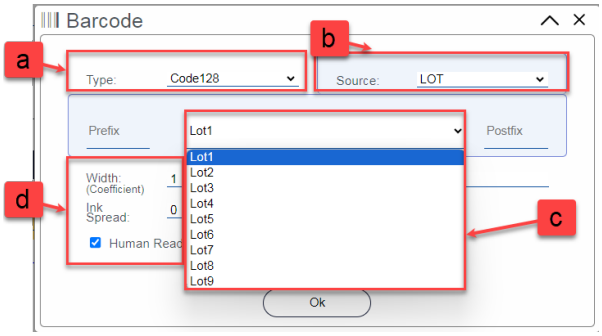



Figure 87. Data Matrix Lot

Follow the steps below to design a barcode with LOT Number source:

a. Select the barcode type from the drop-down list.
b. Select the source to LOT
c. Select one of the LOTs from the window that opens from LOT 1 - LOT 9.
d. Enter barcode settings
e. Click the 'Save & Send' button.
f. To edit the LOT number, proceed to the monitoring page. Click on the Lot Number drop-down arrow to show the LOT container list. Click 'Edit' on the LOT number container you selected in the message design. Enter your number or text in the window, then click the Submit button.




Figure 88. Editing LOT Number

# HEALTH CHECK

The printer Health Check is a monitoring software module that continuously run inside the printer. This module checks and reports status of device hardware and software. The module generates an encoded diagnostic number which provides the users with useful internal information that includes warnings and alarms. The Health Check page offers a remedy column to help operators fix most issues; thus, reducing the hidden cost associated with fault finding.

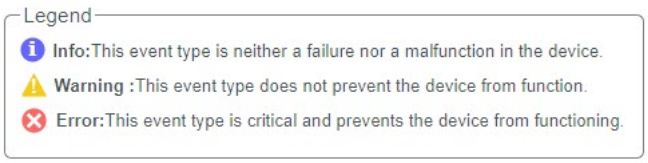






Figure 89. OLED Display

## How to use Health Check:

*When a fault is detected, RGB beacon will start blinking RED and printer stops printing.*
*When a warning is detected, RGB beacon turns Yellow and printer continues printing.*

Steps:

1. Make sure the printer is connected to the Internet via Access Point.
2. Launch Hx Manager and enter the IP Address from an Access point or router found on the printer LED Display.
3. Once the Hx Manager page loads, click on Health Check from the menu.
4. Health Check will begin monitoring your device's hardware and software.
5. If an issue is detected, an encoded diagnostic number will be generated.
6. Check the remedy column for suggested solutions to the issue.
7. If applicable, click on the solution link to see an error-related tutorial video.
8. Follow the instructions provided to clear the issue.
9. Check Health Check periodically to maintain the health of your printer.

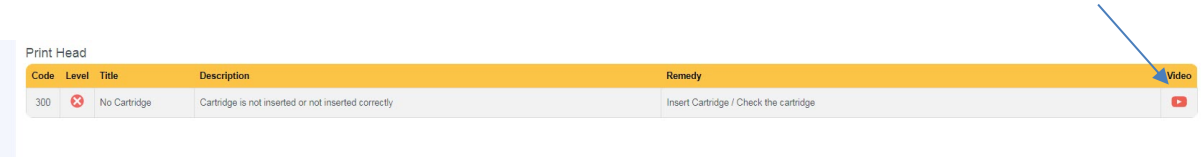



Figure 90. Health Check Table

- Click on the solution link to see to an error-related tutorial video if applicable.

# SETTINGS PAGE

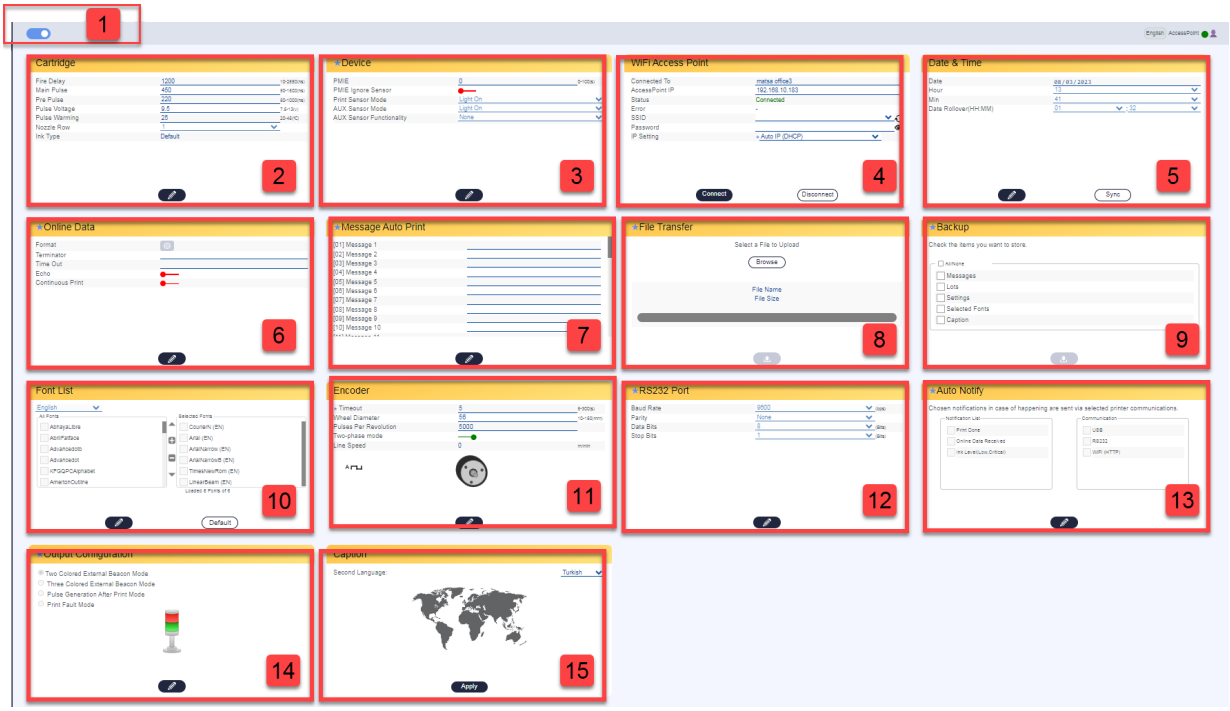



Figure 91. Setting

## 1. Advanced Mode

By changing to the advanced mode, more setting options are displayed:




Figure 92. Advanced Mode

## 2. Cartridge

A. Ink configuration should match the information on the cartridge label
B. Select nozzle row. It is recommended to change the row of nozzles or use the **ping pong** option halfway of cartridge life to maintain the best print quality
C. Ink type

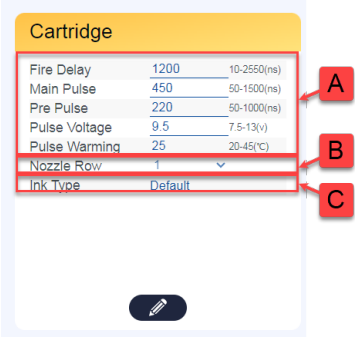



Figure 93. Cartridge Section

## 3. Device

A. **PMIE**: PMIE prevents the ink from drying on the nozzles when the printer is inactive. When the print sensor is not detecting any product, nozzles will fire a vertical line. The time period between one (1) to 100 seconds can be used to set for the PMIE.

B. **PMIE Ignore Sensor**: When this is enabled the PMIE will be active even if the sensor detects product.

C. **Print Sensor Mode** :Sensor product detection modes is on without changing sensor wire configurations.

D. **AUX Sensor:** Ability to set print direction when encoder is not used, Only by the AUX SENSOR pin of DB9 (pin 8).
Aux Sensor pin on the DB9

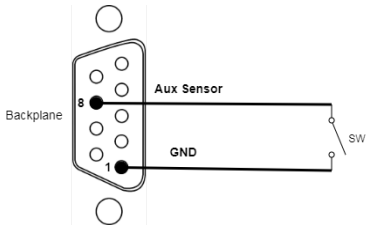



Figure 94. Print Direction

| SW | Print Direction |
|---|---|
| Open | Normal |
| Close | Mirror |

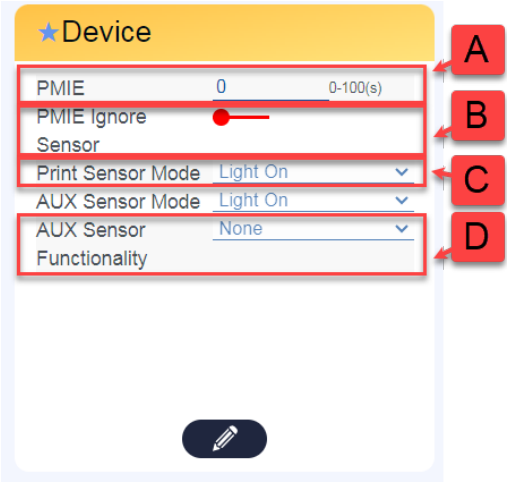



Figure 95. Device

### Dark On and Light On modes

**Dark On:** Normally, when sensor is not triggered, the sensor output is High. And if it is triggered, the sensor output will change to Low. (NC)

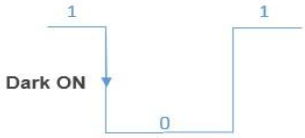



Figure 96. Dark ON

**Light On:** Normally, when sensor is not triggered, the sensor output is Low. And if it is triggered, the sensor output will change to High. (NO)

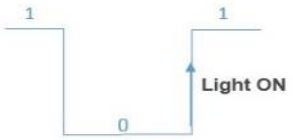



Figure 97. Light ON

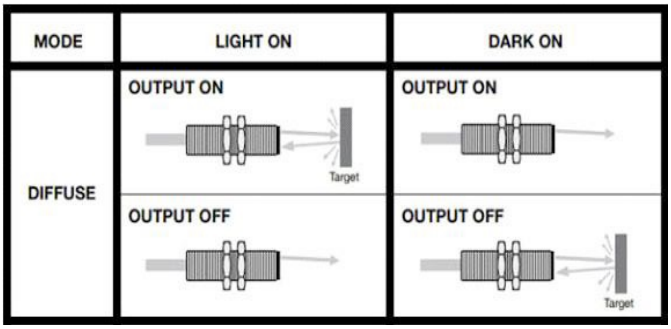



Figure 98. Sensor Type

**Note:** For information about the "Dark On" or "Light On" type of sensors, please refer to the sensor user manual

## 4. Wi Fi Access Point

To connect Hx Nitro to the Access Point:

- First, connect the device to the Hx Nitro Direct Wi-Fi connection.
- Once connected, launch Hx Manager using the default IP address in the browser: 192.168.5.1.
- When the Hx Manager page loads, go to the Settings page.
- Select either "Access Point" or the company Wi-Fi/SSID from the SSID list.
- Enter your Wi-Fi password and check the connection status.

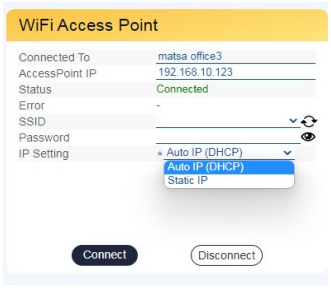



Figure 99. Wi Fi Access

### Static IP Address

In the Settings page, under the Wi-Fi Access-point container, there is an option to select between "Auto IP" and "Static IP". By choosing the second option, users can enter an "IP Address" as a static IP. By clicking on the "Connect" button, the new setting will be applied.

NOTICE:

- Users should know the access point's DHCP IP range. The desired IP address should be between the DHCP start and end IP addresses of the target access point.
- Users should also know the access point's free IP addresses to avoid conflicts with other clients.
- The desired IP address cannot be the "LAN IP Address" of the access point because it is assigned to the access point itself (usually "192.168.1.1"), which can create conflicts.
- For more information on this, users can speak to the Maplejet Technical Team

When the status shows connected:

- Users should go back to the Wi-Fi settings on their mobile, tablet, or computer and connect to the Access Point/Wi-Fi.
- The new IP Address displayed on the OLED screen of Hx Nitro should be checked.
- The IP Address can then be entered in the browser to access the printer.




Figure 100. IP Address at Printer's OLED

Note:

*This device operates at a frequency of 2.4GHz.*

### *Change IP Direct*

To change the default IP of the device, do the following steps:

1. Enter the command " /cmd%exe@setdhcpip$192.168.x.y% " after the IP.

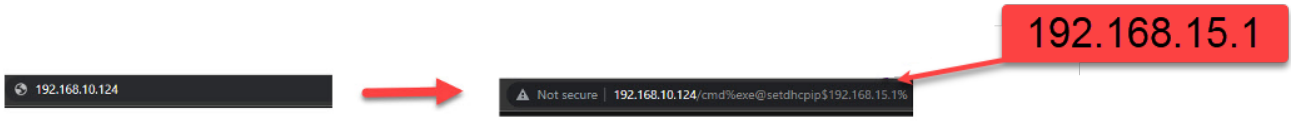



Figure 101. Change IP Direct

2. Enter new values instead of "**x**" and "**y**".

**Y**: value must be set but its value is not important. Its value is always considered 1.

**X**: value is in range [0 … 255]




Figure 102. Change IP Direct

## 5. Date & Time

Time can be set either synced or entered manually

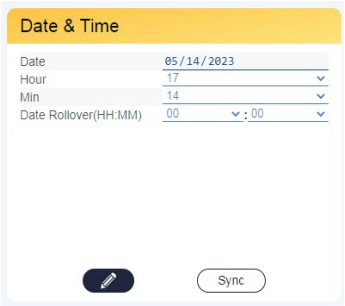



Figure 103. Date & Time

### Manual Configuration

- To set manually, click the "Edit" button
- Select Day, Month, and Year
- Select Hour and Minute
- Click submit

### To configure automatically,

Click on the sync button, the date and time of the printer will be synchronized with the connected device.

### *Date Rollover*

Rollover time feature allows the printer to select a specific time to automatically change the date of production.

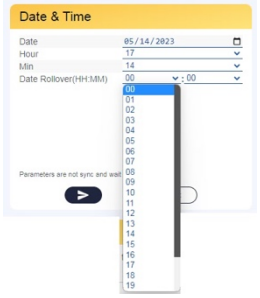



Figure 104. Configure the Rollover time

### Activating Rollover Time

- To activate Rollover time, launch Hx Manager
- Proceed to Setting Page
- In Setting Page, click the 'Edit button under the Date & Time section and set the rollover time

Example: Set the rollover time 2 minutes after Midnight and click submit.

When the time reaches midnight, the date automatically changes, but the 'rollover' date remains, as time is set 2 minutes after midnight

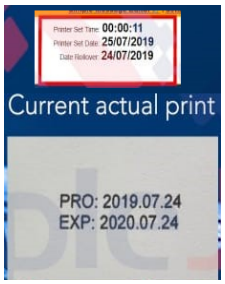



Figure 105. Rollover time changes only after 2 minutes past 12

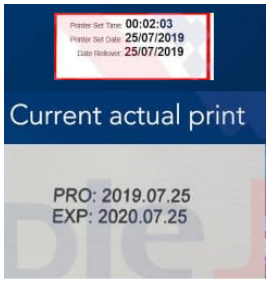



Figure 106. Actual print

When the time reaches 00:02, 'Date rollover' will automatically change. It means that the printer will print 24/07/2019, until rollover time changes.

## 6. Online Data

Users can design a message from an online external data source. The data of this object can be updated like any other variable data before printing the message. The difference between this data and other variable data is that data update comes from an external source like a computer (PC), weighing machine, barcode reader, PLC, and so on.

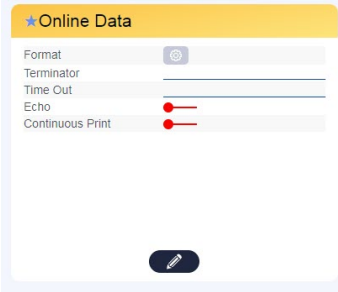



Figure 107. Online Data

**Format:** Operators can set a data format. This means that they can remove some text and add a constant text for printing. The online data format can be changed from the Hx Manager under the Online Data Settings. If the 'format' field is left blank, the entered online data is printed without any changes. The Data Format also has a special structure to define a user-custom format for the online data.

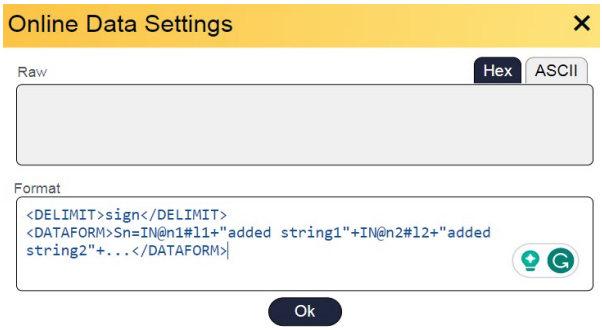



Figure 108. Format

### Online Data Format Structure:

Following box shows grammar of the Online Data Format. It is an XML with two tags. The <DELIMIT> tag is for determine delimiter of the online data and the <DATAFORM> tag is for define the online data format. It can be blank if no need for a delimiter and data format.

```
<DELIMIT>sign</DELIMIT>
<DATAFORM>Sn=IN@n1#l1+"added string1"+IN@n2#l2+"added string2"+...</DATAFORM>
```

Example1 (data format):
Input Online Data: W12249H
Online Data Format: <DATAFORM>S1=IN@3#2+“.”+IN@5#2+“Kg”</DATAFORM>
Printing Data:
22.49Kg

Example2 (delimiter):
Input Online Data: abc123&def456
Online Data Format: <DELIMIT>&</DELIMIT>
Printing Data :
abc123
def456

**Note:** *You can define only one data format for online data.*

**Terminator:** Allows to declare the last character of the packet

**Note**: To enter any Binary or HEX code for out of keyboard characters, use “URLEncodin” standards. According to that, first enter ‘%’ symbol, and the next two characters will be considered as HEX code. For more information and complete HEX code characters table, please refer to the link below:

https://www.w3schools.com/tags/ref_urlencode.asp

Note: In the Delimiter option, only the following characters can be used ~ ! @ # $ % ^ * ( ) _ + ? / \ | - . , ; : > < [ ] { } =

- **Time Out:** The time that system waits to receive bits to continue.
- **Echo**: Sending all received bytes to the transmitter for validation.
- **Continuous Print**: Prints last received bytes until new data is received. When disabled, it only prints the received data once and then stops printing.

Important: Mismatch Timeout and Baud Rate Alert

- In the “Settings” page, an alert will be displayed to the user if there is a mismatch between the set “Timeout” value in the “Online Data” container and the set “Baud Rate” value in the “RS232 Port” container. This alert will be triggered when the user changes either the “Timeout” or the “Baud Rate” value, and the two values do not match. However, if the “Timeout” input is left empty, no alert will be displayed when the user changes the “Baud Rate” value.
- The alert will recommend increasing either the “Timeout” or the “Baud Rate” value to ensure that the two values match. This can help to prevent errors or data loss caused by communication issues between devices.

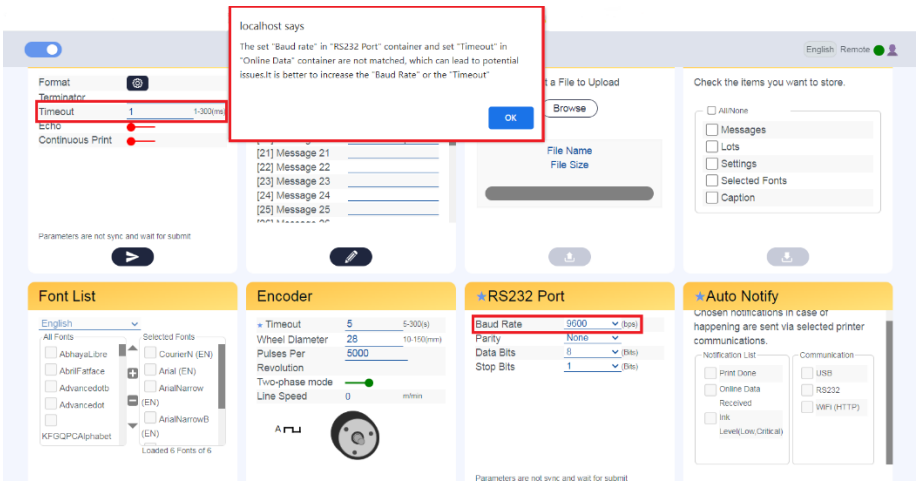



Figure 109. Timeout

## 7. Message Auto Print

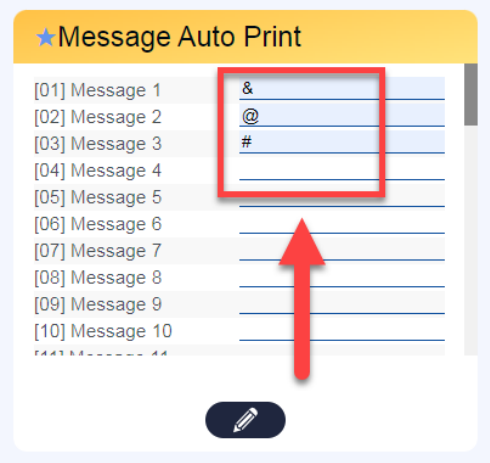



Figure 110. Message Auto Print

When the data that is sent via RS232, USB, or WiFi as online data is equal to a "specific label" that is defined for each message, then the message related to the label will be automatically loaded for printing.

With this feature, a designed message can be loaded for printing by a label that is sent over communication interfaces (such as by a PLC, barcode reader, etc.). This can save time and effort, as it eliminates the need to manually select the desired message for printing.

## 8. File Transfer

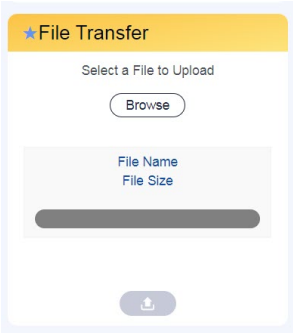



Figure 111 File Transfer

The file transfer option allows the printer software to be updated locally after receiving a field upgrade from the technical team and is also used to upload a backup copy.

### How to update:

a) Contact the MapleJet support team to obtain a unique update file for each printer UID.
b) Select the update file using the browse button.
c) Click on the upload button.
d) Wait until the progress bar shows 100% and then wait a few seconds until you see the software upgrade message on the printer screen.

After the update is complete, restart the printer and check the software version in Hx Manager to confirm that the new software has been installed.

## 9. Backup

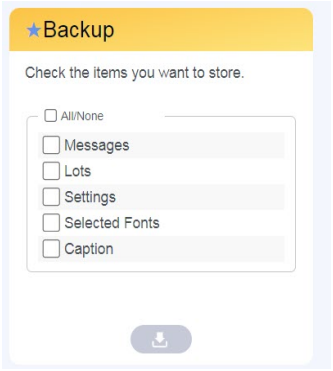



Figure 112. Backup

Using this feature, operators can select different items such as messages and settings to backup.

### To backup selected items:

1. Select the items you want to backup.
2. Click the download button and save the backup file to your device's local storage.

**To restore from a backup file:**

1. Upload the backup file using the "File Transfer" compartment.
2. Follow the instructions on the OLED screen.
3. Restart the device.

Note that restoring from a backup file will overwrite the current items on the device with the backup items.

## 10. Font List

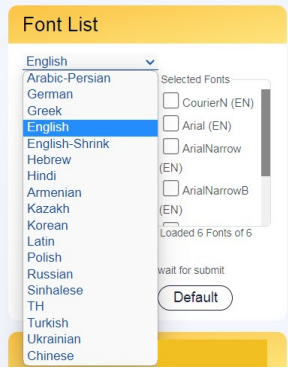



Figure 113. Font List

There are six pre-loaded fonts in Hx Nitro, but printer fonts can be added or removed from the Font list section.

Here's how to change the font:

a. Click on the edit button.
b. Select the font that needs to be deleted from the printer font list.
c. Click on the "-" button to remove it.
d. Select your preferred language from the language list, then select the font that needs to be added to the font list.
e. Click on the "+" button to add it to the printer fonts list.
f. Click on the SUBMIT button to save your changes.

| Language Font List | | | |
|---|---|---|---|
| English | Arabic-Persian | German | Greek |
| Chinese | Hindi | Hebrew | Ukrainian |
| Armenian | Kazakh | Korean | Latin |
| Polish | Russian | Sinhalese | Thai |
| Turkish | | | |

## 11. Encoder

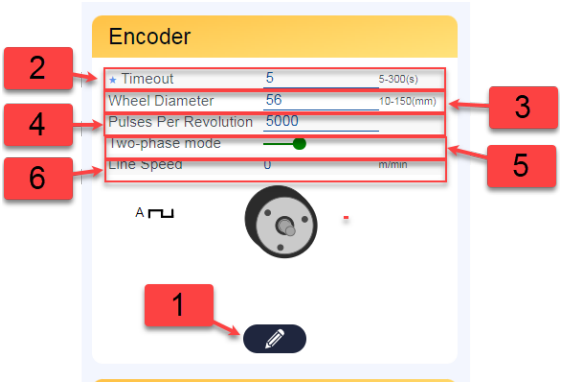



Figure 114. Encoder

The encoder is used on production lines where the product speed is not constant. To set up the encoder, follow these steps:

1. Proceed to the Settings page and go to the "Encoder" section.
2. Click "Edit" to enter the encoder values.
3. Insert the wheel diameter that is used as the encoder roller.
4. Enter the number of encoder pulses.
5. Select the number of encoder output phases. In two-phase mode, both speed and direction can be identified.

**Encoder Timeout:**

In case the production line stops in the middle of printing, the printer will wait based on the timeout value. It will resume printing once it receives the encoder pulses. Otherwise, it will cancel the print and wait for the next print signal. The timeout must be set between 5 to 300 seconds.

**Encoder activation steps:**

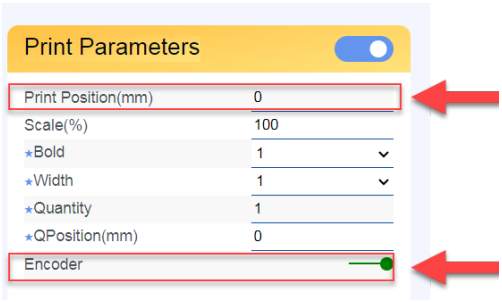



Figure 115. Print Parameters

To activate the encoder, go to the Hx Manager's Simple Message Editor and enable the Encoder option. By doing this, the print parameter units will change from Time to Pulse. Set the parameters according to the pulse and press the "Save & Send" button to send new parameters to the printer.

### *Scale*

When the encoder is enabled in the Simple Message Editor, users are able to set the "scale" value or "speed" when it is disabled. The scale option is used to shrink or stretch the width of the print when the encoder is enabled. It can be set between 50% (half) to 200% (double).

## *12. RS232 Port*

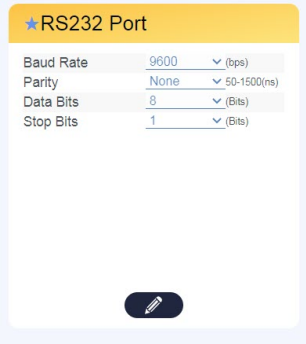



Figure 116. RS232 Port

The RS232 Port container can be found in the Settings page. This allows users to add or set values accordingly.

To set up the RS232 Port, follow these steps:

a. Proceed to the Settings page and go to the "RS232 Port" section.
b. Click "Edit" to enter the RS232 Port values.
c. Select the baud rate, data bits, stop bits, and parity according to your device's specifications.
d. Click "Save" to save your changes.

Note that the RS232 Port is used for communication between the printer and other devices, such as a computer or a PLC. Make sure to connect the devices properly and verify the communication settings before proceeding with any printing.

## 13. Auto Notify

The Auto Notify feature allows users to select an event from the notification list on the left and select the communication channel type on the right (see Figure 116 below). The printer will automatically notify the user when the selected notification occurs via the selected communication protocols.

### *How to use Auto Notify on USB and RS 232 port*

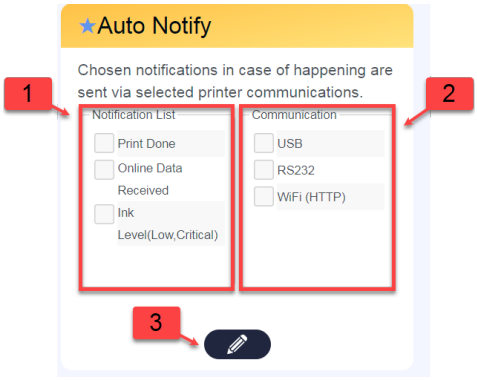



Figure 117. Auto Notify

1. Enter the settings page and click on the Auto Notify box.
2. Choose your desired option from the Notification List.
3. Choose your communication path to RS 232-USB port.
4. Click on confirmation.
5. Set the port settings based on the port of the notification receiving device

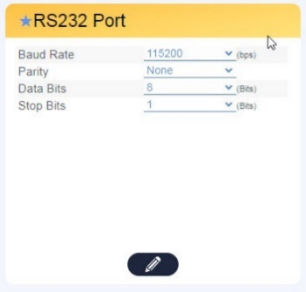



Figure 118. Auto Notify

Run a port monitoring software on the receiving device. Then adjust the port settings according to the Hx settings (for example, we use Docklight software here).

## *Notifications list*

All enabled notifications is described below:

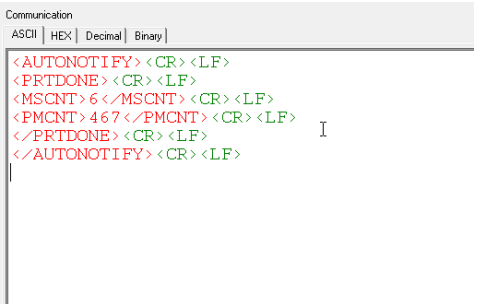



Figure 119. Notifications list

### 1. Print Done

It sends a Print Done notification packet after each print. it contain more information about print, message counter and print module counter.

Sample: A print done

```
<AUTONOTIFY>
<PRTDONE>
<MSCNT>52</MSCNT>
<PMCNT>6842159</PMCNT>
</PRTDONE>
</AUTONOTIFY>
```

| No. | Tag Name | Tag Level | Description |
|---|---|---|---|
| 1 | AUTONOTIFY | Root | Auto Notify permanent and main tag |
| 2 | PRTDONE | Parent | Print Done notification tag |
| 3 | MSCNT | Sub | Message counter value |
| 4 | PMCNT | Sub | Print Module counter value |

### 2. Online Data Received

It sends a notification to inform that an external online data has been received successfully. It also returns the received data length in character by an "ODLEN" tag.

Sample: An online data with length seven (7) has been received

```
<AUTONOTIFY>
<ODRECV>
<ODLEN>7</ODLEN>
</ODRECV>
</AUTONOTIFY>
```

| No. | Tag Name | Tag Level | Description |
|---|---|---|---|
| 1 | AUTONOTIFY | Root | Auto Notify permanent and main tag |
| 2 | ODRECV | Parent | Online Data Received notification tag |
| 3 | ODLEN | Sub | Online data received data length |

### 3. Ink Level

It sends the ink level status once when it changed. the status can be "Low" or "Critical".

Sample: Ink reaches to level "Low "

```
<AUTONOTIFY>
<INKLVL>
<INKSTAT>Low</INKSTAT>
</INKLVL>
</AUTONOTIFY>
```

| No. | Tag Name | Tag Level | Description |
|---|---|---|---|
| 1 | AUTONOTIFY | Root | Auto Notify permanent and main tag |
| 2 | INKLVL | Parent | Ink Level notification tag |
| 3 | INKSTAT | Sub | Ink level status (Low, Critical) |

## 14. Output Configuration

The Output Configuration allows users to set the corresponding output mode for the output signals. This will activate the desired output signals for the user.

To set up the Output Configuration, follow these steps:

1. Go to the Output Configuration section in the Settings page.
2. Click "Edit" to enter the Output Configuration values.
3. Select the desired output mode for the output signals that you want to use.
4. Click "Save" to save your changes.

Modes:

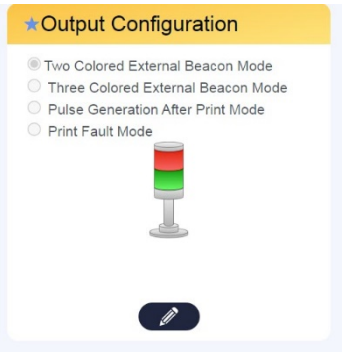



Figure 120. Output Configuration

There are several modes available in the Output Configuration section. Some of the modes are described below:

### *Two Colored External Beacon Mode*

This mode is used when a two-colored beacon is used to display the status of the printer.

### *Three Colored External Beacon Mode*

This mode is used when a three-colored beacon is used together with the ADD-ON module to display the status of the printer.

### *Pulse Generation After Print*

Generates pulses after printing. After each print, two pulses are generated, a falling edge pulse on pin 4 and a rising edge pulse on pin 2. These pulses can be used for various purposes such as activating external devices or monitoring the printing process. For wiring, refer to the wiring section.

### *Print Fault Mode*

- In this case, the status of the printer can be announced to peripheral devices.
- This status announcement is included for all error codes.
- This mode provides a signal to the PLC for an error or warning. The following tables and images show the configuration of this mode in the PLC input. This mode enables/disables the external light lines in case of warning or error. The External-Beacon-1 line (pin4) is disabled if there is an error in the Hx printer. Line of External-Beacon-2 (pin2) is disabled when there is Hx Waning in the printer.
- This feature has been added since version 75 of the software.

*Description:*

- When Hx-Printer is in "Ready to Print" Pin2 and Pin4 is On. It means there is not any Error or Warning.
- When Hx-Print is in "Print Off" state then Pin4 is Off. It means there is an Error.
- When Hx-Print is Power-Off then Pin2 and Pin4 are Off. It means there are Error and Warning

| Status | Beacon1 (Pin4) |
|---|---|
| Error | Inactive (Off) |
| No Error | Active (On) |
| | |

| Status | Beacon2 (Pin2) |
|---|---|
| Warning | Inactive (Off) |
| No Warning | Active (On) |

Errors that cause pin 4 output to be activated

| |
|---|
| No VPPH1 |
| VPPH Over Current |
| No Print-Head |
| Mismatch HeadType |
| PH Over Temperature |
| No print permission.(external data) |
| No print permission.(counter) |

### *How to activate:*

1. Proceed to the settings pag and enable advanced mode.
2. Click on the Output Configuration container.
3. Activate the Print Fault Mode option
4. At the end, click on the confirmation button.

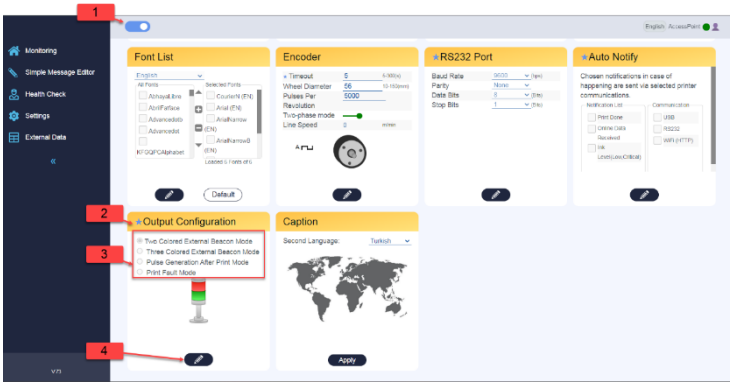



Figure 121. Print Fault Mode

## *15. Caption*

Hx Manager interface language can be changed from this menu.

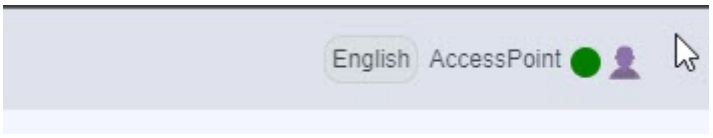



Figure 122. Interface language




Figure 123. Second Language

**Note:**

This feature is available in version 63.64 and later. To use this feature, the printer must be connected to the access point and Internet.

To set the second language:

- Proceed to the caption section on the Hx Manager settings page.
- Select the preferred second language from the list.
- Press the 'Apply' button.

| List of available languages | |
|---|---|
| Thai | Spanish |
| Portuguese | Japanese |
| German | Chinese |

# TROUBLESHOOTING & MAINTENANCE

## *Solvent Cleaning Solution*

**Note:** This solution should only be used to clean Hx printer cartridges.

**How to use:**

Pour a few drops of solvent on the lint-free cloth that comes with the pack and clean the nozzles of the cartridge slowly in one direction.




Figure 124. Solvent Cleaning

| Error Message /Symptoms | Reason | Solution |
|---|---|---|
| PH Reading Error<br>Or<br>No Cartridge | 1) Bad Connection | a) Reinsert the cartridge.<br><br>b) Clean the cartridge pads and housing pins against any dried ink or dirt.<br><br>c) Check the housing pins and make sure none of them stuck (dried ink inside the pins can stuck the internal spring, in this case need to clean the faulty pin with MEK). |
| | 2) Physical Damage | a) Check the cartridge pads against physical damage.<br><br>b) Check the housing pins to make sure not bending and working fine. |
| | 3) Cartridge electrical failure | Check the cartridge with other printer, if same issue, replace the cartridge. |
| | 4) Device Failure<br>(Housing or MB failure) | Check a healthy cartridge with printer, if still same issue needs to contact the Maplejet support team for further instruction. |
| Unverified Tag/ Unknown Tag<br>or<br>No Tag | 1) Tag not installed in the correct place, or tag does not exist | Install the tag in the correct place or substitute with a correct tag |
| | 2) Physical damage to the tag | Install a new tag |
| | 3) Tag is illegible or corrupted | Install a new tag |
| Bad Connection | Bad connection between cartridge pads and printer pins. | a) Reinsert the cartridge.<br><br>b) Clean the cartridge pads and housing pins against any dried ink or dirt.<br><br>c) Check the housing pins and make sure none of them stuck (dried ink inside the pins can stuck the internal spring, in this case need to clean the faulty pin with MEK). |
| Incompatible Cartridge | The cartridge does not have Maplejet Identification Code. | a)Use Original Cartridge<br>b)Contact the service and technical support team. |
| Broken Cartridge | Electronic failure on cartridge or device MB | a) Check the cartridge with other printer, if same issue, replace the cartridge.<br><br>b) Check a healthy cartridge with printer, if still same issue needs to contact the Maplejet support team for further instruction. |
| PH Over Heat | 1)The cartridge temp is more than 60 C° | Check the Cartridge temp and print parameters. |

## Troubleshooting Table

| Error Message /Symptoms | Reason | Solution |
|---|---|---|
| | 2) Cartridge is damaged or defective | Check the cartridge with other printer, if same issue, replace the cartridge. |
| | 3) Device Failure (Housing or MB failure) | Check a healthy cartridge with printer, if still same issue needs to contact the Maplejet support team for further instruction. |
| Empty Cartridge/ CTS No Ink | The cassette is empty. | The cassette must be replaced. |
| Wrong Ink Type | The Cartridge type is not matched with tag type. | a) Change the tag, Contact the service and technical support team if not solved. |
| CTS Failure | RFID module failure. | Repair required by an authorized engineer. |
| No Voltage | Cartridge voltage is not available. | Repair required by an authorized engineer. |
| Corrupted Message | The corrupted message has been received and the printer cannot print. | Send the message again. |
| Bad PParameter | The print parameters are out of range. | Check print parameters and resend the message to printer. |
| Bad waveform | The cartridge setting values are not set or out of range. | Check the cartridge setting and set based on using cartridge parameters. |

The following table is troublkeshooting for “Fault Message”

The following table is troublkeshooting for “Warning Message”

| Error Message /Symptoms | Reason | Solution |
|---|---|---|
| ExtD Online End | If the printer is printing external data online and the data has run out | Ssend a new external data. |
| ExtD Batch End | If the printer is printing a batch of external data and has run out of data | Resend a batch external data. |
| No Battery | Clock is not set yet. | Set Clock from settings page. |
| | Internal battery is dead | Change the battery. |
| No Message | There is no sent message in printer. | Send a message from vanguard or simple message editor. |
| Old Message | Received message is not ready for printing. | Turn on/off device. |
| Over Voltage | The monitored voltage is higher than required set pulse voltage. | a) Reset the printer (Off/On)<br>b) Repair required by an authorized engineer. |
| Under Voltage | The actual Voltage is less than pulse voltage in settings. | a) Reset the printer (Off/On)<br>b) Repair required by an authorized engineer. |
| Detecting Tag | Reading cartridge Tag info. | Wait to detecting tag. |
| No Encoder Pulse | The encoder is enabled in print parametrs but printer can not recevice the encoder pulses. | a) Check the encoder cable and connection.<br>b) Check the encoder mounting and wheel condition.<br>c) Replace the encoder. |

## How to properly attach the tag to the cartridge

The tag contains the cartridge parameters and must be installed in the correct location. If it is not attached properly, the printer will not function properly.

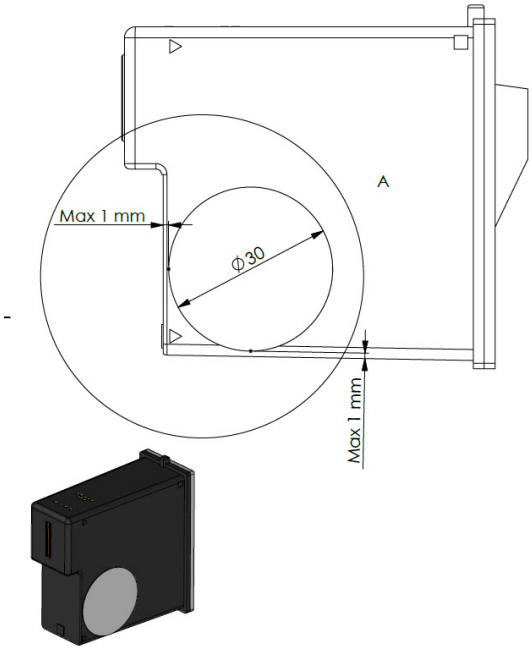
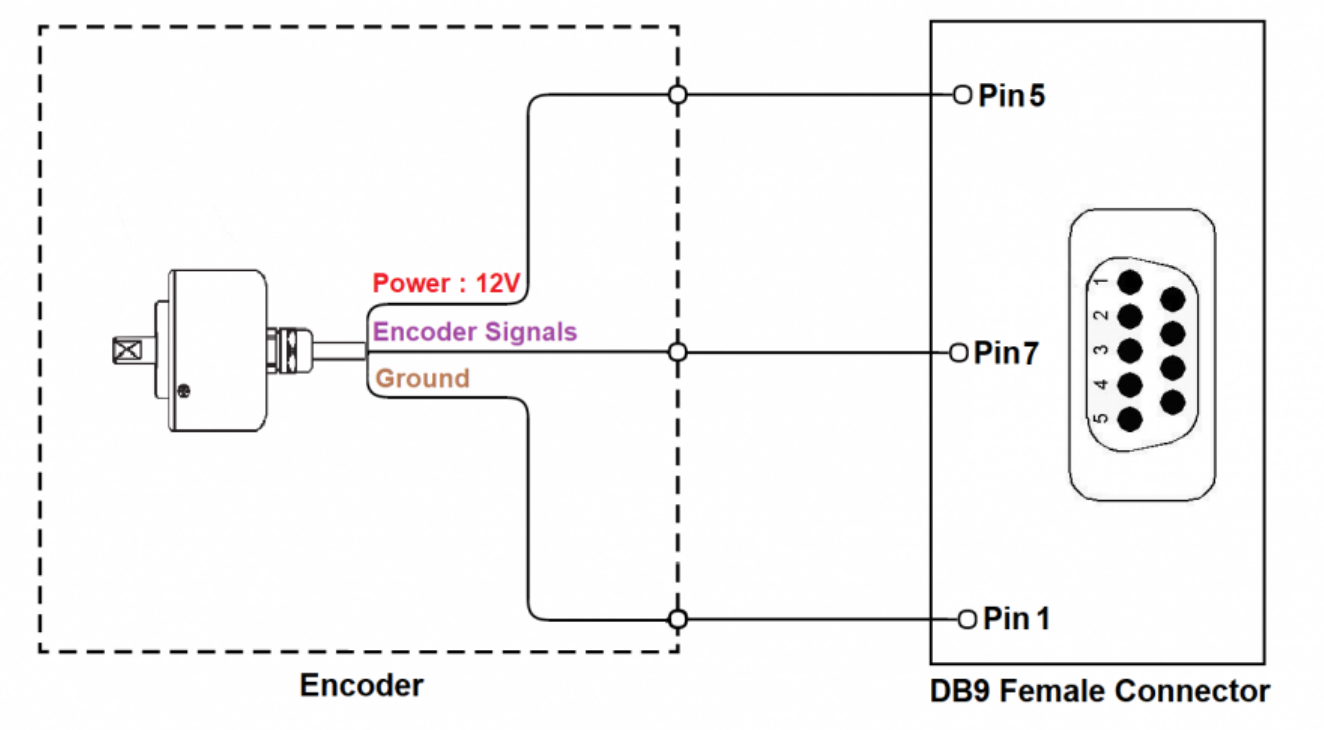



Figure 125. How to properly attach the tag to the cartridge

# WIRING OF PERIPHERAL COMPONENTS

## *Single phase encoder wiring*

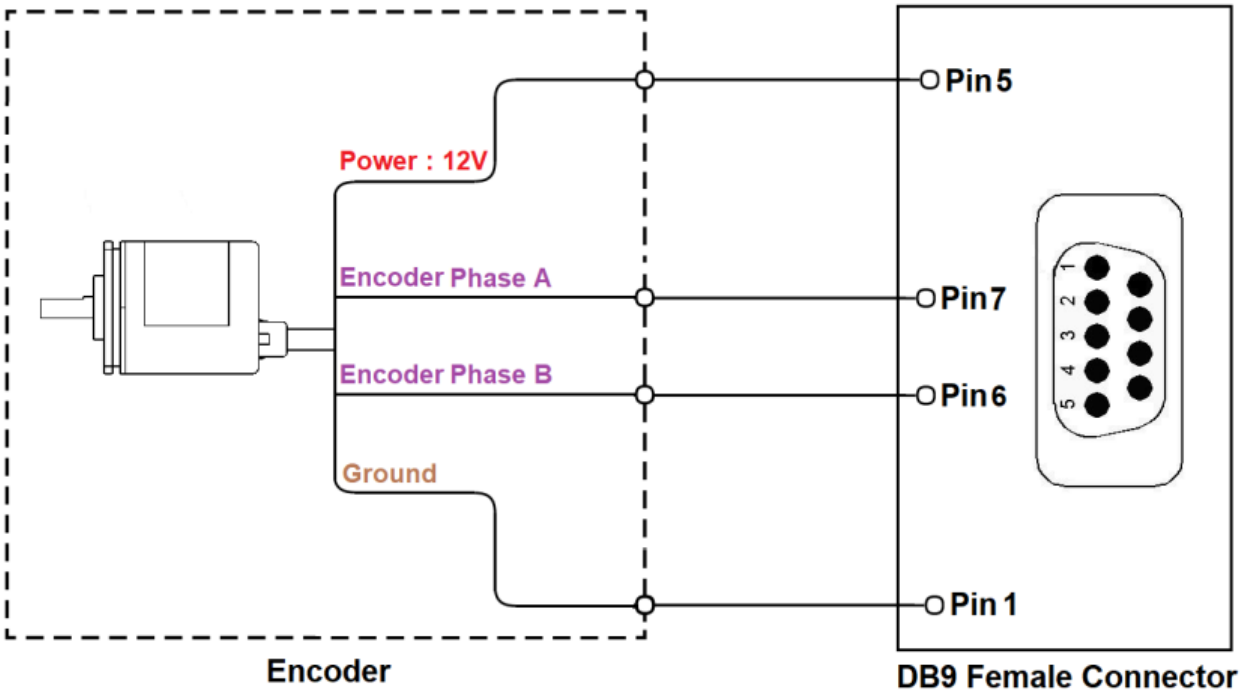



**Pin 1** is connected to the **Ground** pin of the Encoder.

**Pin 5** is connected to the **Power (+V)** pin of the Encoder.

**Pin 7** is connected to the **Output** of the Encoder.

*Two-phase encoder wiring*




**Pin 1** is connected to the **Ground** pin of the Encoder.

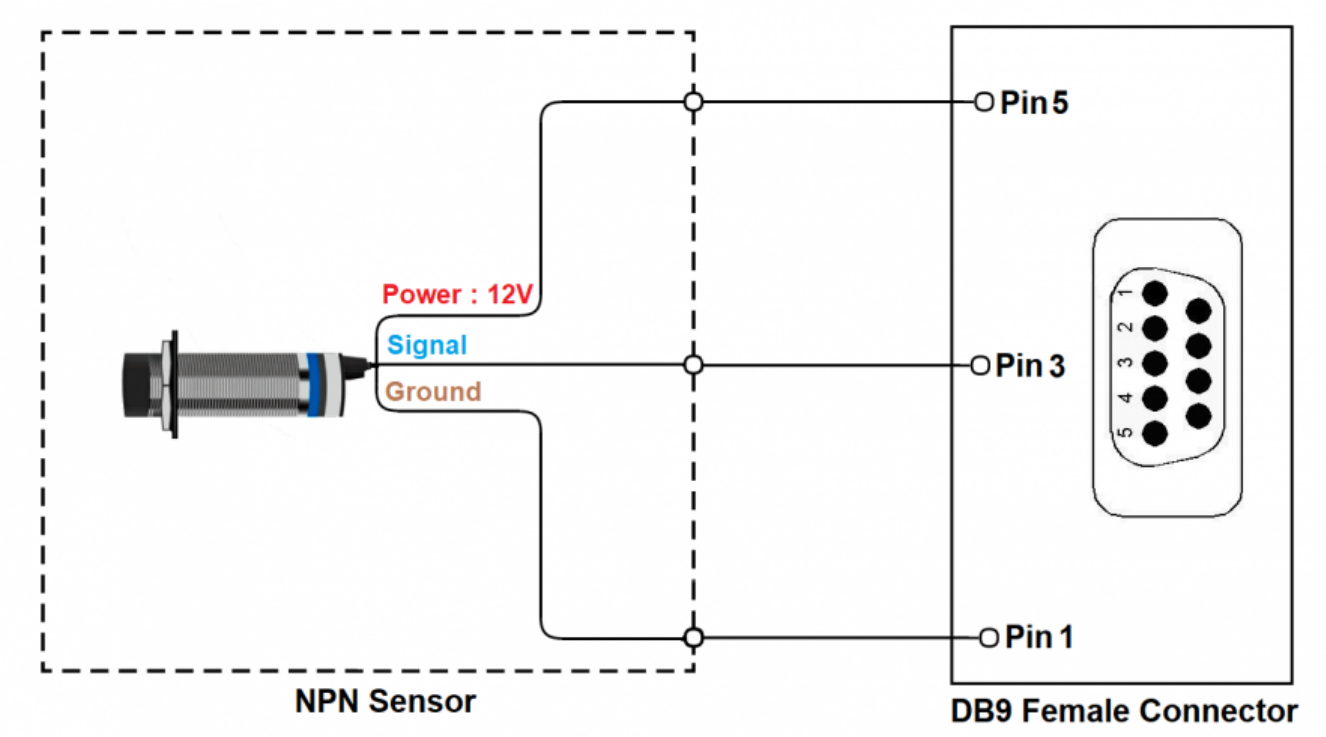
**Pin 5** is connected to the **Power (+V)** pin of the Encoder.

**Pin 6** is connected to the **Output - Phase B** of the Encoder.

**Pin 7** is connected to the **Output - Phase A** of the Encoder.

## *NPN Sensor wiring*

Pin **3** of the female DB9 connector is dedicated to NPN sensor signal, 12v power and ground connections of the sensor should be connected to pins 5 and 1 of the DB9 connector.



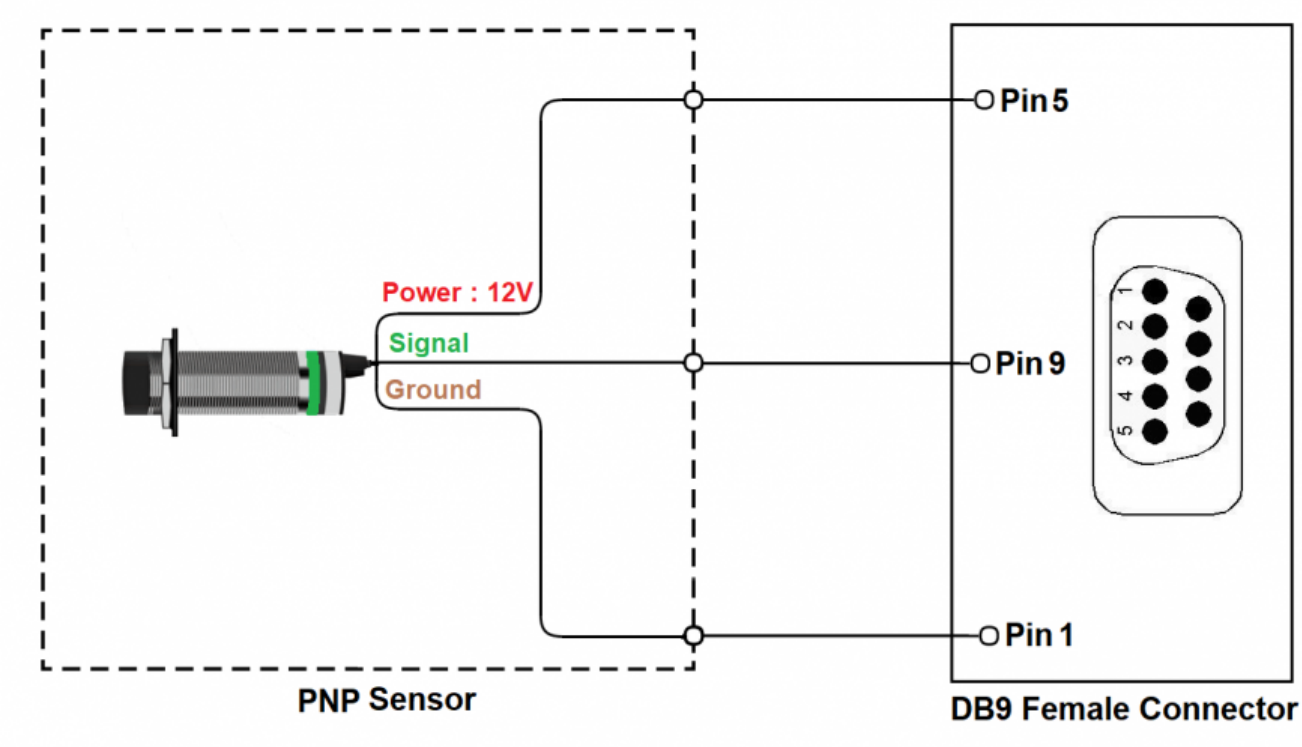

**Pin 1** is connected to the **Ground** pin of the NPN Sensor.

**Pin 3** is connected to the **Output** of the NPN Sensor.

**Pin 5** is connected to the **Power (12v)** pin of the NPN Sensor.

### *PNP Sensor wiring*

Pin **9** of the female DB9 connector is dedicated to NPN sensor signal, 12v power and ground connections of the sensor should be connected to pins 5 and 1 of the DB9 connector.



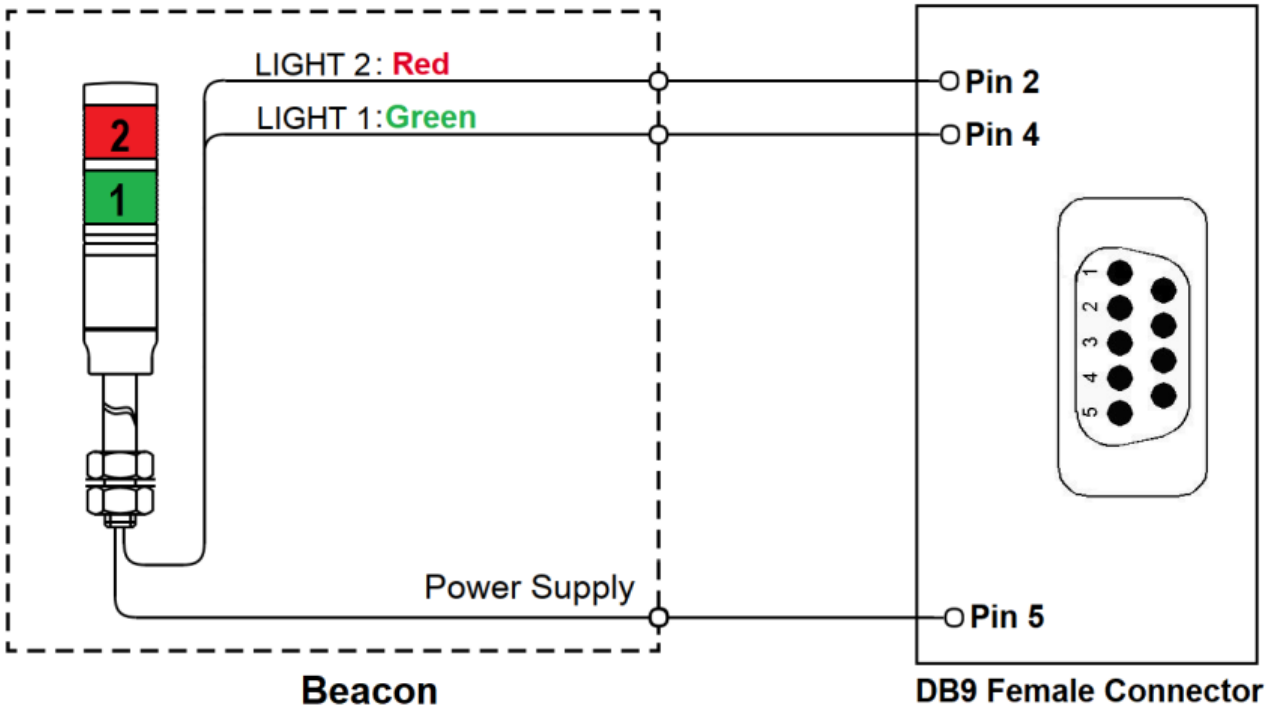

**Pin 5** is connected to the **Power (12v)** pin of the PNP Sensor.

**Pin 1** is connected to the **Ground** pin of the PNP Sensor.

Pin 9 is connected to the **output** of the PNP Sensor.

### *Two-color Beacons wiring*

External beacons are being driven through the Female DB9 Connectors, which can also be used for Pins 2,4 and 5 of female DB9 connectors. Connection should be as it depicted in the figure below.




Pin 2 is connected to the **Red light** pin of external beacon.

Pin 4 is connected to the **Green** light pin of external beacon.

Pin 5 is connected to the **Power supply (Common)** pin of the external beacon.

| Status | Beacon1 (Pin4) | Beacon2 (Pin2) | GreenLamp | Red Lamp |
|---|---|---|---|---|
| Print Off | Inactive | Inactive | Off | Off |
| Print On, Ready to print | Active | Inactive | Off | Off |
| Warning or Low ink | Inactive | Inactive~Active | Off | Blinking |
| Fault or Critical low ink | Inactive | Active | Off | On |

## *Three Colors External Beacons Wiring*

To display 3 colors, we must use the ADDON module. The wiring method is as follows.

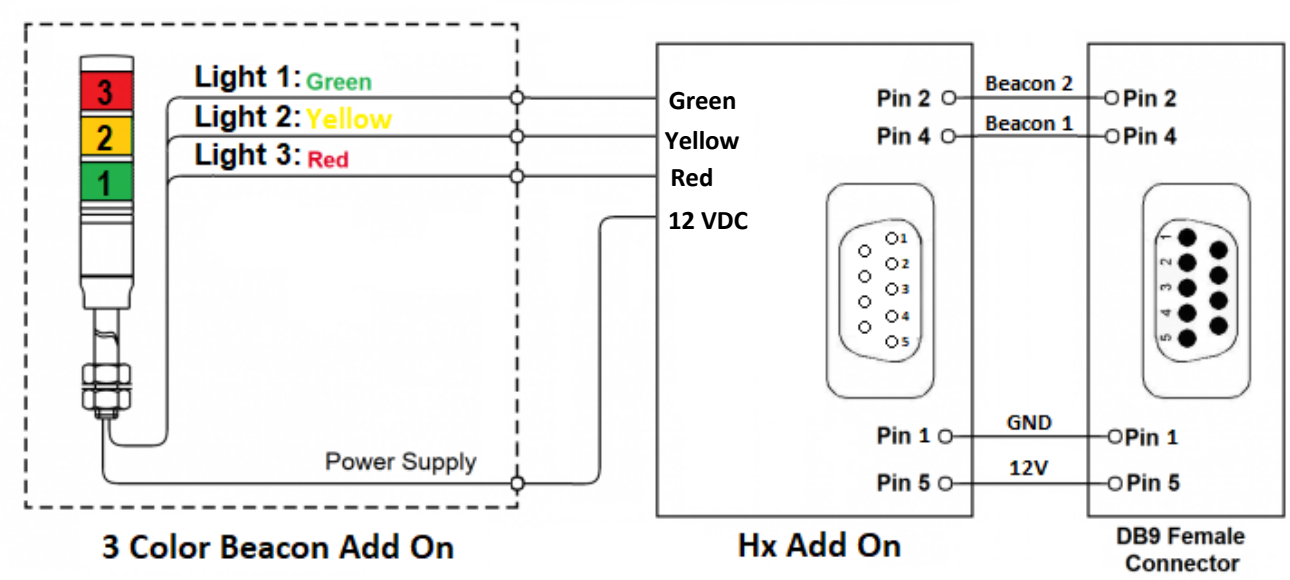






Figure 126. Hx Add-On 3 Color

**Pin 1** is connected to the **GND** pin of Add On.

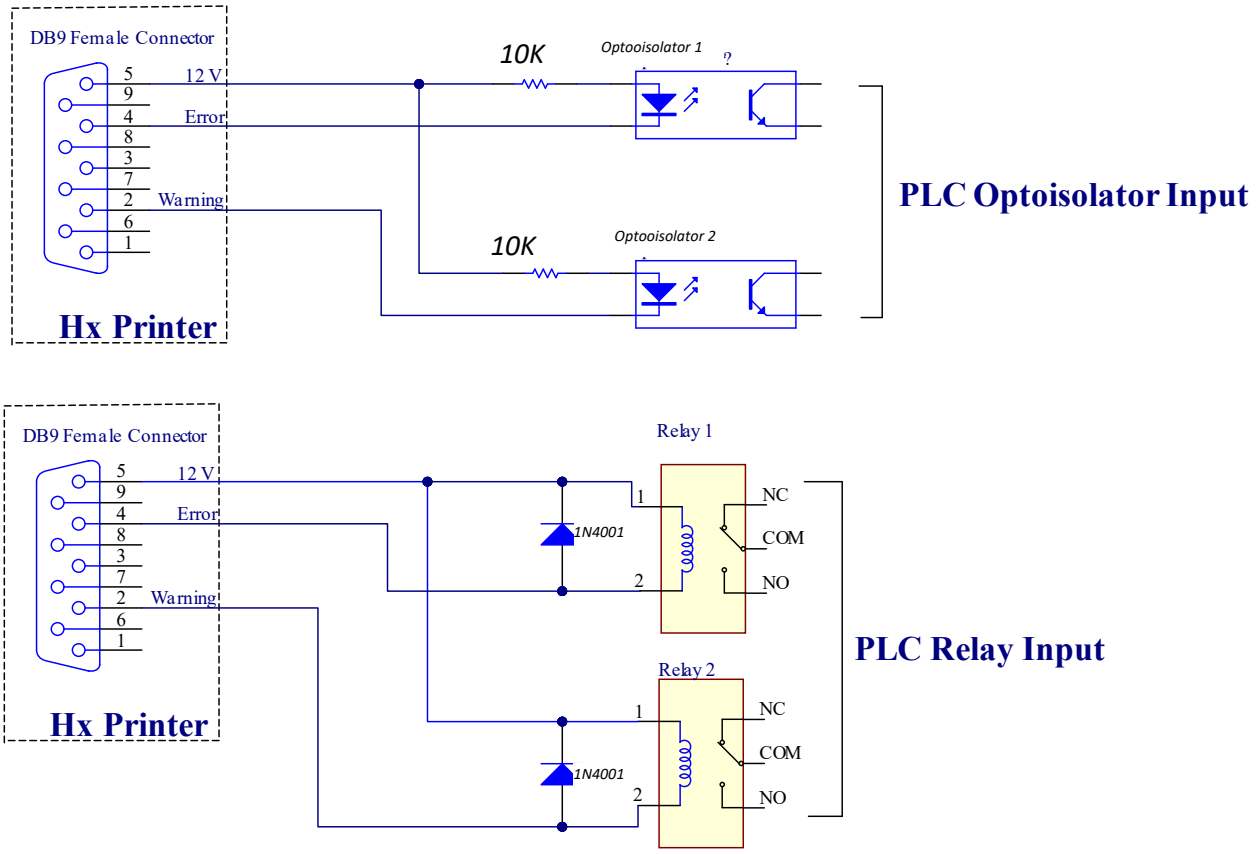
**Pin 2** is connected to the **Beacon 2** pin of Add On.

**Pin 4** is connected to the **Beacon 1** pin of Add On.

**Pin 5** is connected to the **Power supply** pin of the Add On.

| Status | External Beacon1 (Pin2) | External Beacon2 (Pin4) | Red Lamp | Yellow Lamp | Green Lamp |
|---|---|---|---|---|---|
| Print Off | Inactive | Inactive | Off | Off | Off |
| Print On, Ready to print | Active | Inactive | Off | Off | On |
| Warning or Low ink | Inactive | Active | Off | On | Off |
| Fault or Critical low ink | Active | Active | On | Off | Off |

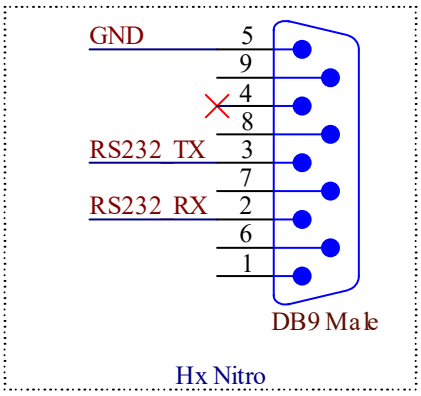
## *Print Fault Mode Wiring*



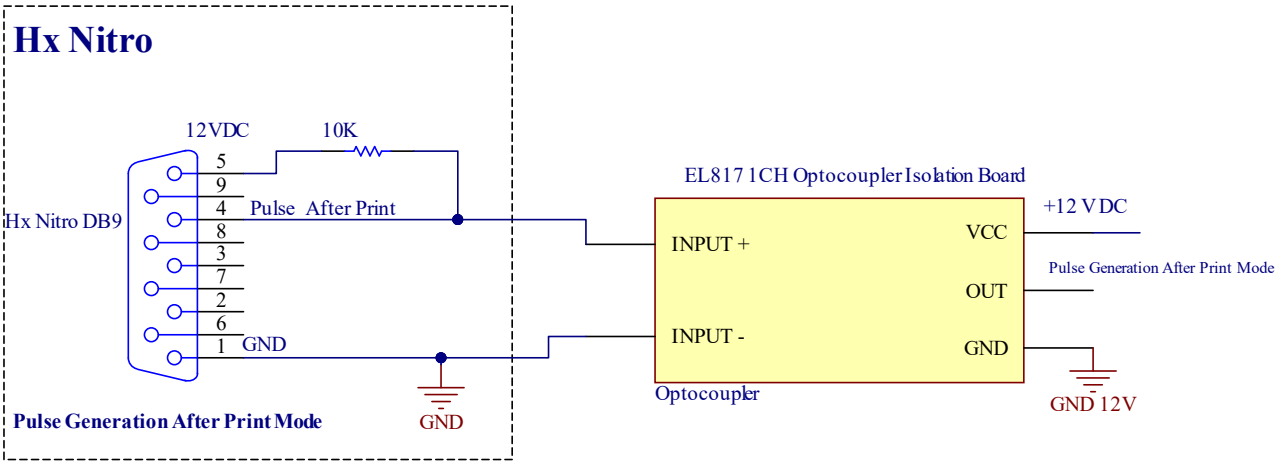
## *RS232 wiring*

It is important to note that not all models equipped with the RS232 hardware require to use the RS232 port. To determine if your device has the necessary hardware, check the LED next to the RS232 port. If the LED is on, it indicates that the device is equipped with RS232 hardware and the port is available for use. If the LED is not lit, it means that the RS232 port is not available in your device.

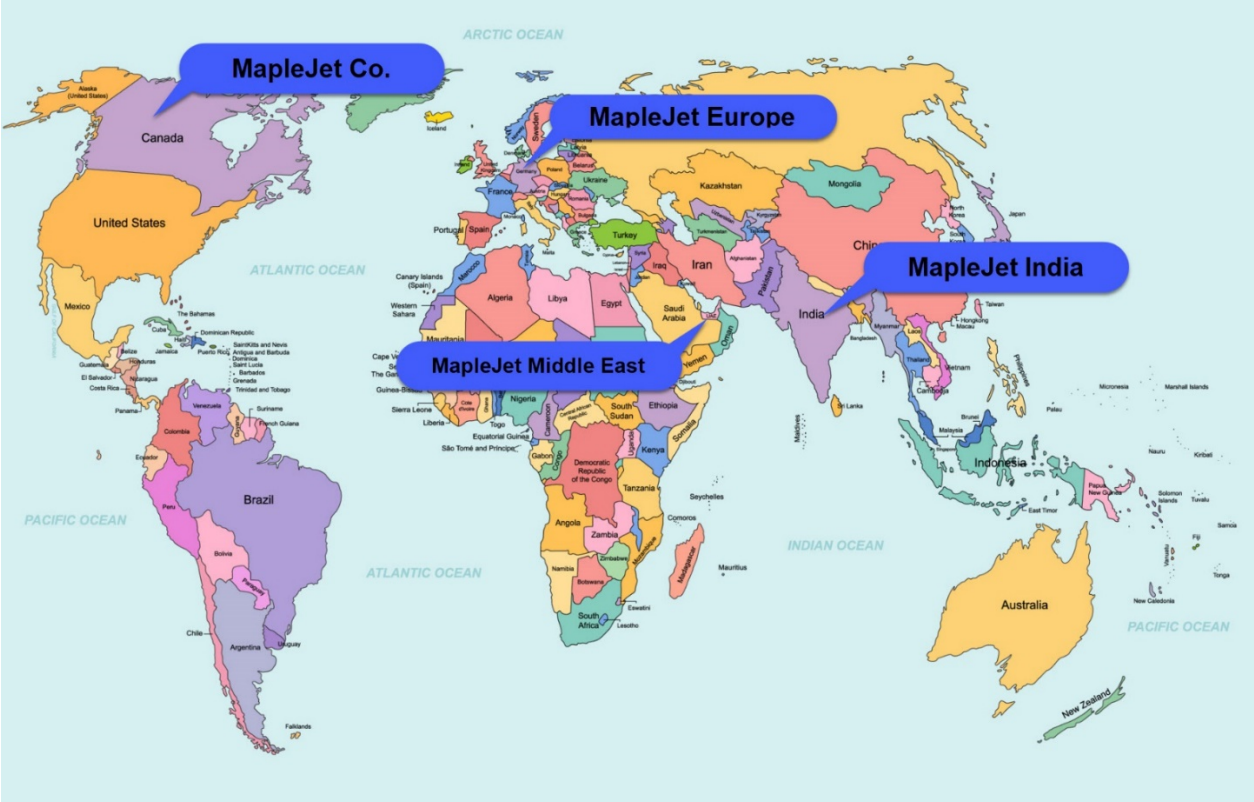


## *Pulse Generation After Print Mode*



# CONTACT US





## Head Office MapleJet Co.

4 Vata Court, Unit 4,
Aurora, ON
L4G 4B6, Canada

+1(833) 387-7490
+1(905) 482-3106

## Middle East & Asia Office MapleJet Middle East FZE

www.maplejet.com
technical@MapleJet.Com

Warehouse No: T5-066
Saif Zone
Sharjah – UAE

+971 6 546 0545

## MapleJet India Coding Pvt Ltd

E-73, Sector 63,
Noida, Uttar Pradesh,
India

+91 120 0438 8841

## MapleJet Europe Office

Kopernikusstraße 13
50126 Bergheim
Germany

+49 (0) 151 15512409