Videojet DataFlex 6530

Operator Manual

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Compliance Information

For Customers in the European Union

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

EU EMC Directive 2014/30/EU:

Essential health and safety requirements relating to electromagnetic compatibility.

EN 61000-6-2	Generic standards - Immunity for industrial environments.
EN 61000-6-4	Generic Emissions Standard for Industrial Environments.
EN61000-3-2	Limits for harmonic current emissions (equipment input current up to and including 16A per phase).
EN 61000-3-3	Limitations of voltage fluctuation and flicker in low voltage supply systems for equipment with rated currents up to and including 16A phase.

EC Low Voltage Directive 2014/35/EU

Essential health and safety requirements relating to electrical equipment designed for use within certain voltage limits.

EN 60950-1	Safety requirements for information technology equipment including electrical business equipment.

For Customers in the USA

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.

⚠ WARNING

PERSONAL INJURY.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference, when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Shielded cables must be used with this unit to ensure compliance with Class A FCC limits.

This equipment has been tested and certified for compliance with U.S. regulations regarding safety and electrical emissions.

This equipment has been investigated in accordance with the standard for safety:
UL 60950-1: Safety of information technology equipment.

For Customers in Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This equipment has been tested and certified for compliance with Canadian regulations regarding safety and electrical emissions.

This equipment has been investigated in accordance with the standard for safety: CAN/CSA C22.2 No. 60950-1-03. Safety of information technology equipment.

Pour la clientèle du Canada

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicales aux appareils numerique de las class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Cet équipement est certifié CSA.

This equipment has been investigated in accordance with the standard for safety: CAN/CSA C22.2 No. 60950-1-03. Safety of information technology equipment.

⚠ WARNING

PERSONAL INJURY.

This product is not intended for use in the immediate/direct visual field of the display work place. To avoid disturbing reflections on the display work place, this product shall not be placed in the immediate/direct field of vision.

Support and Training

Contact Information

If you have any questions or need assistance, please contact Videojet Technologies Inc. at 1-800-843-3610 (for all customers within the United States). Outside the U.S., customers should contact their Videojet Technologies Inc. distributor or subsidiary for assistance.

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Service Program

Videojet service and support programs are designed to protect your investment in Videojet printers and deliver the lowest total cost of ownership to your operations.

Videojet offers comprehensive service programs, spare parts and training - all designed to help you keep your lines up and running.

- A complete array of customer services and offerings tailored to meet your operational needs
- A program designed to maximize your equipment uptime, allowing you to focus on your most important mission - your company's productivity
- A product and service program to support and deliver your ultimate purchase: a high quality, reliable printed code on your finished product.

Customer Training

If you wish to perform your own service and maintenance on the printer, Videojet Technologies Inc. recommends you complete a Customer Training Course on the printer.

Note: *The manuals are intended to be supplements to (and not replacements for) Videojet Technologies Inc. Customer Training.*

For more information on Videojet Technologies Inc. Customer Training Courses, call 1-800-843-3610 (within the United States only). Outside the U.S., customer should contact a Videojet subsidiary office or the local Videojet distributor for further information.

Section 1 Introduction

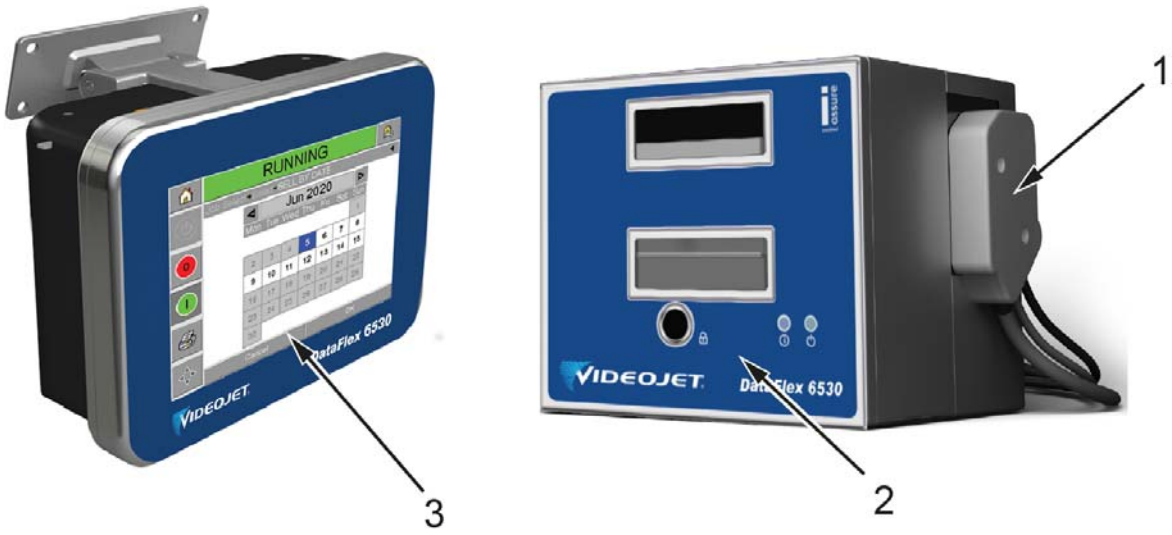
This chapter contains the following topics:

- Equipment Description
- About this Manual
- Related Publications
- Content Presentation
- Abbreviations and Acronyms
- Chapters in the Manual

1.1 Equipment Description

The main parts of the Videojet DataFlex 6530 printer are described as follows:

- Printer: Houses the printhead and ribbon. The data is transferred to the printhead from the controller. The printhead prints onto the packaging film.
- CLARiTY Controller Display: Houses the power supply unit and touch screen. You can access jobs, setup jobs, set the various print parameters using the touch screen.



1. Interconnecting Cable
2. Printer
3. CLARiTY Controller Display and Power Supply Unit (PSU)

Figure 1-1: Videojet DataFlex 6530 Printer and CLARiTY Controller Display

1.2 About this Manual

This Operator Manual is written for the every day user of the printer. The Operator Manual helps the user to understand the different parts and printing operations of the printer.

1.3 Related Publications

The following manuals are available for reference:

Videojet DataFlex 6530 Service Manual, Part Number: 463041.

Videojet DataFlex 6530 Illustrated Parts Breakdown Manual Part Number: 463041.

1.3.1 Language Codes

When you order this manual, make sure to add the 2-digit language code at the end of the part number. For example, the Danish version of the operator manual is part number 463040-18. Table 1-1 shows the list of language codes that you can use to identify the translated versions of this manual.

For more information, contact the Videojet customer service or your local distributor.

Note: *The availability of the Operator Manual is indicated by an asterisk (*). Availability of the Service Manual is indicated by a plus sign (+). For more information, contact the Videojet customer service or your local distributor.*

Code	Language	Availability (see note)	
01	English (US)	*	+
02	French	*	
03	German	*	
04	Spanish	*	
05	Portuguese	*	
06	Japanese	*	
07	Russian	*	
08	Italian	*	
09	Dutch	*	
10	Chinese (Simplified)	*	
11	Arabic	*	
12	Korean	*	
15	Norwegian	*	
16	Finnish	*	
17	Swedish	*	
18	Danish	*	
19	Greek	*	

Table 1-1: List of Language Codes

Code	Language	Availability (see note)	
21	English (UK)	*	+
23	Polish	*	
24	Turkish	*	
25	Czech	*	
26	Hungarian	*	
34	Bulgarian	*	
36	Chinese (Traditional)	*	

Table 1-1: List of Language Codes (Continued)

1.4 Content Presentation

This Operator Manual contains different types of information like safety guidelines, additional notes, user interface (UI) terminology and so on. To help you identify the different types of information, different writing styles are used in this manual.

1.4.1 Positional References

Positions and directions like left, right, front, rear, to the right and to the left are with respect to the CLARiTY display when you see it from the front.

1.4.2 Units of Measurement

This manual uses metric units of measurement. The equivalent English measures are included in parenthesis. For example, 240 mm (9.44 inches).

1.4.3 Safety Information

Specific safety information is listed throughout this manual in the form of Warning and Caution statements. Pay close attention to these statements as they contain important information that help in avoiding potential hazards to yourself or to the equipment.

1.4.3.1 Warning

- The warning statements indicate hazards or unsafe practices that can cause severe personal injury or death.
- They have a triangular symbol with an exclamation mark to the immediate left of the text.
- They are always preceded by the word “Warning”.
- They are always found before the step or information referring to the hazard.

For example:

⚠WARNING

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

1.4.3.2 Caution

- The caution statements indicate hazards or unsafe practices that result in equipment or property damage.
- They have a triangular symbol with an exclamation mark to the immediate left of the text.
- They are always preceded by the word “Caution”.
- They are always found before the step or information referring to the hazard.

For example:

⚠CAUTION

EQUIPMENT DAMAGE.
Read this chapter thoroughly before attempting to install, operate, service, or maintain this equipment.

1.4.4 Notes

Notes provide additional information about a particular topic.

For example:

Note: *You can set the password protection for some functions to prevent any access that is not authorised.*

1.5 Abbreviations and Acronyms

Abbreviation	Expansion
AC	Alternating Current
I/O	Input/Output
LCD	Liquid Crystal Display
PLC	Programmable Logic Controller
RH	Right Hand
SELV	Safety Extra Low Voltage
UI	User Interface
USB	Universal Serial Bus
WYSIWYG	What You See Is What You Get

Table 1-2: Abbreviations and Acronyms

1.6 Chapters in the Manual

This manual is divided into ten chapters. An introduction to the topics that each chapter covers is shown in Table 1-3.

Chapter No.	Chapter Name	Description
1	Introduction	Contains the information about this manual, the related publications, and writing styles used in this manual.
2	Safety	Contains the safety and hazard information.
3	Main Parts	Describes the main parts of the printer.
4	Startup	Describes the basic startup operations of the printer.
5	CLARiTY Operating System	Contains the information about CLARiTY operating system.
6	Job Editor	Contains the information on how to edit and delete jobs.
7	Maintenance	Contains the information on service and maintenance.
8	Troubleshooting	Contains the operator level diagnostic and troubleshooting procedures.
Appendix A	Specifications	Contains the printer specifications.
Appendix B	Availability	Contains information about availability tools.

Table 1-3: List of Chapters

Section 2 Safety

This section contains the following information:

- Introduction
- Equipment Safety Guidelines
- Electrical Safety Guidelines
- Installation of the Printer
- Print Ribbon Safety Guidelines
- Other Important Guidelines

⚠WARNING

PERSONAL INJURY.
Read this section thoroughly before attempting to install, operate, service, or maintain this product otherwise, it may cause serious injury.

2.1 Introduction

The policy of Videojet Technologies Inc. is to manufacture printing/coding systems and supplies that meet high standards of performance and reliability. Therefore, we employ strict quality control measures to eliminate the potential for defects and hazards in our products.

The intended use of this printer is to print information directly onto a product. Use of this equipment for any other purpose may lead to serious personal injury.

The safety guidelines provided in this section are intended to educate the operator on all safety issues so that the operator can operate the printer safely.

2.2 Equipment Safety Guidelines

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

⚠WARNING

PERSONAL INJURY.
The equipment should be operated by an authorized personnel who can use the machine independently and without causing damage to the equipment or a personal injury. The operating personnel should be trained and informed regularly about safety and environmental hazards.

⚠WARNING

PERSONAL INJURY.
Only trained service or maintenance personnel should perform the installation procedures. Qualified personnel who have successfully completed the training courses, have sufficient experience with this printer, and are aware of the potential hazards to which they will be exposed.

⚠WARNING

PERSONAL INJURY.

Before attempting any maintenance or repair on any part of the product, disconnect the printer from the main power supply and isolate the printer from any external energy sources including other connected equipment.

⚠WARNING

PERSONAL INJURY.

Keep your hands and clothing clear of the printer while it is on.

⚠WARNING

PERSONAL INJURY.

Observe all safety and warning labels on the device for the safe operation of the system.

⚠CAUTION

EQUIPMENT DAMAGE.

Do not, under any circumstances, remove or obstruct any warning, caution, or instruction labels present on the equipment. If any part of these labels become damaged, worn or removed they must be immediately replaced.

2.2.1 Printhead

⚠WARNING

PERSONAL INJURY.

Do not place your fingers under the printhead when the equipment is operating.

⚠CAUTION

EQUIPMENT DAMAGE.

The device must be switched off when the printheads are being installed, connected or disconnected.

⚠CAUTION

EQUIPMENT DAMAGE.

The printhead may become hot during normal operation. Observe necessary precautions before attempting to touch the printhead.

2.3 Electrical Safety Guidelines

This section explains the safety guidelines related to electrical power supply, electrical cables, bonding, and grounding.

2.3.1 Comply with Electrical Codes

⚠WARNING

PERSONAL INJURY.

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

2.3.2 Electrical Power

⚠WARNING

ELECTRICAL HAZARD.

Voltages used to connect the printer to other equipment must not be greater than 50 V dc or peak ac.

⚠WARNING

ELECTRICAL HAZARD.

Always wear a properly grounded wrist ground strap when handling printed circuit boards. Failure to do so can result in damage to the board components due to static electricity.

⚠WARNING

PERSONAL INJURY.

To ensure that the connecting cables and pipes do not become a trip hazard or become entangled in any machinery, all the connecting cables and pipes must be secured safely during installation.

⚠WARNING

PERSONAL INJURY.

There will be sections of the printer control board that will be permanently powered via the on-board lithium battery - therefore it is essential that the board should never be placed onto, nor stored in or on any conductive surface (including conductive, plastic bags etc.) as this would flatten the battery and/or potentially result in battery overheating. The battery is not to be replaced by the operator.

⚠WARNING

PERSONAL INJURY.

If the battery is replaced by an incorrect type, it may lead to an explosion. Always dispose off the used batteries according to the instructions and local regulations.

⚠CAUTION

PERSONAL INJURY.

Do not unplug any connector on the equipment when the mains power is on (except USB and ethernet cables).

2.4 Installation of the Printer

⚠WARNING

PERSONAL INJURY.

The printer uses an operator control console. Ensure that this panel is mounted at an appropriate working height and orientation for ease of operation.

⚠WARNING

PERSONAL INJURY.

Do not place the printer in a hazardous location. Hazardous locations might create an explosion, leading to personal injury.

Hazardous locations, as defined in the United States, are those areas that may contain hazardous materials in a quantity sufficient to create an explosion. These are defined in Article 500 of the National Electrical Code ANSI/NFPA 70–1993.

Outside United States, you must ensure compliance with all local regulations regarding the equipment placement in potentially hazardous locations.

⚠WARNING

PERSONAL INJURY.

Place the printer so that no access to the print mechanism is possible after installation.

⚠WARNING

PERSONAL INJURY.

Do not remove the side covers from the printer after installation.

Using Printer Accessories

To maintain regulatory approval for the printer, use only Videojet approved accessories when attaching any device to the equipment.

2.5 Print Ribbon Safety Guidelines

⚠CAUTION

EQUIPMENT DAMAGE.
Print ribbons should be stored at a temperature range of 5 °C to 40 °C, and at a non-condensing humidity range of 20% to 85%.

⚠CAUTION

EQUIPMENT DAMAGE.
The use of incompatible ribbon can seriously damage your printer and such damage will not be covered by your printer warranty. Use only the ribbon approved by your dealer.

2.6 Other Important Guidelines

2.6.1 Cleaning Safety Guidelines

⚠CAUTION

EQUIPMENT DAMAGE.
Do not apply excessive force to the printhead while cleaning, as this can cause damage and can void the warranty.

⚠CAUTION

EQUIPMENT DAMAGE.
Use approved dealer cleaning supplies for cleaning. Do not use high pressure air or cotton.

⚠CAUTION

EQUIPMENT DAMAGE.
The use of an incompatible cleaning kit can seriously damage your printer. Such damage will not be covered by your printer warranty. Use only cleaning kits approved by your supplier.

2.6.2 Warning Labels

Label	Description
	Equipment not intended for use at altitude exceeding 2000m.
	Equipment not intended for use in tropical climate regions.

Table 2-1: Warning Labels

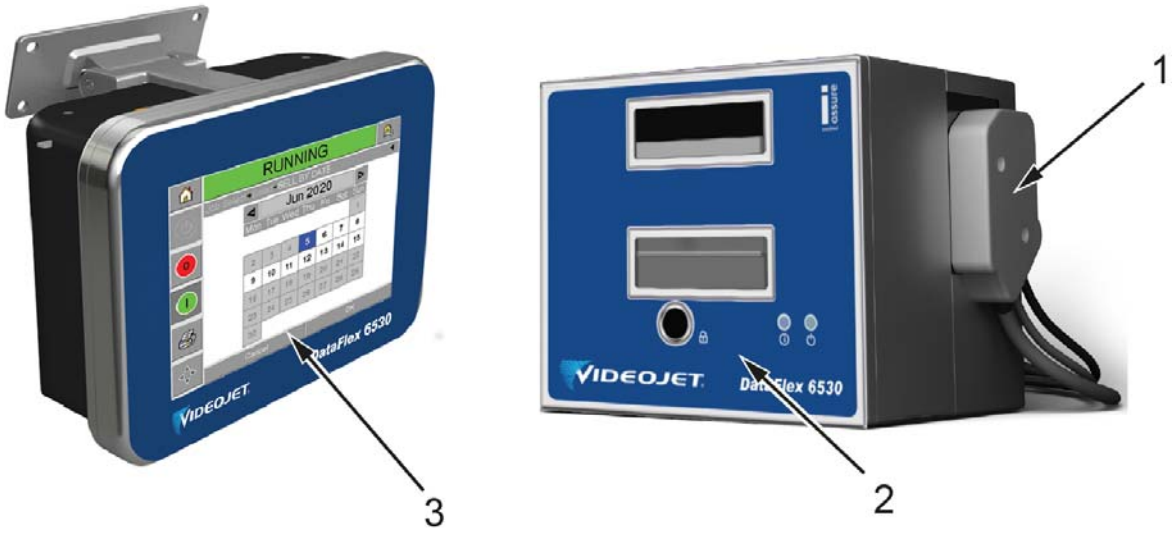
Section 3 Main Parts

This chapter contains information about the integral parts and accessories of the printer.

3.1 Equipment Description

The main parts of the Videojet DataFlex 6530 printer are described as follows:

- Printer
- CLARiTY Controller Display



1. Interconnecting Cable
2. Printer
3. CLARiTY Controller Display and Power Supply Unit (PSU)

Figure 3-1: Videojet DataFlex 6530 Printer and CLARiTY Controller Display

3.1.1 Printer

The Videojet DataFlex 6530 printer uses high-resolution thermal transfer technology with a unique electronic ribbon drive and printhead control, eliminating the need for compressed air. The printer has minimal wear parts reducing the maintenance requirements and a quick release printhead design improves production uptime.

It can print in either of the following modes:

- Intermittent Mode (i.e., while the substrate is stationary)
- Continuous Mode (i.e., while the substrate is moving)

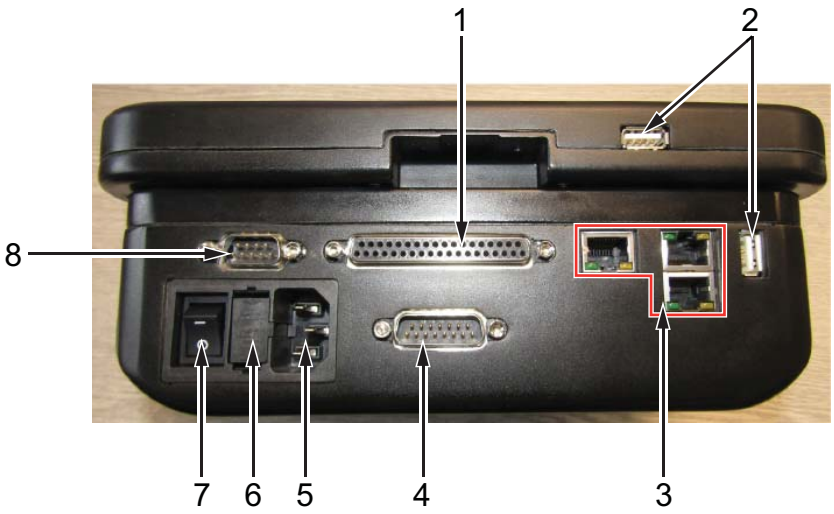
The product is available in either left-handed or right-handed versions to suit different configurations of the packaging machine.

The product is available in the Standard - 53 mm print width model.

3.1.2 CLARiTY Controller Display and Power Supply Unit (PSU)

The controller consists of a removable touch screen display and power supply unit.

The connections to the controller is as shown in the Figure 3-7. There is an interconnecting cable (item 1) connected from the printer to the display. Two USB ports (item 2) are provided to upload and backup printer data and settings. The power switch (item 7) is used to turn on or off the power supply to the CLARiTY Controller Display.

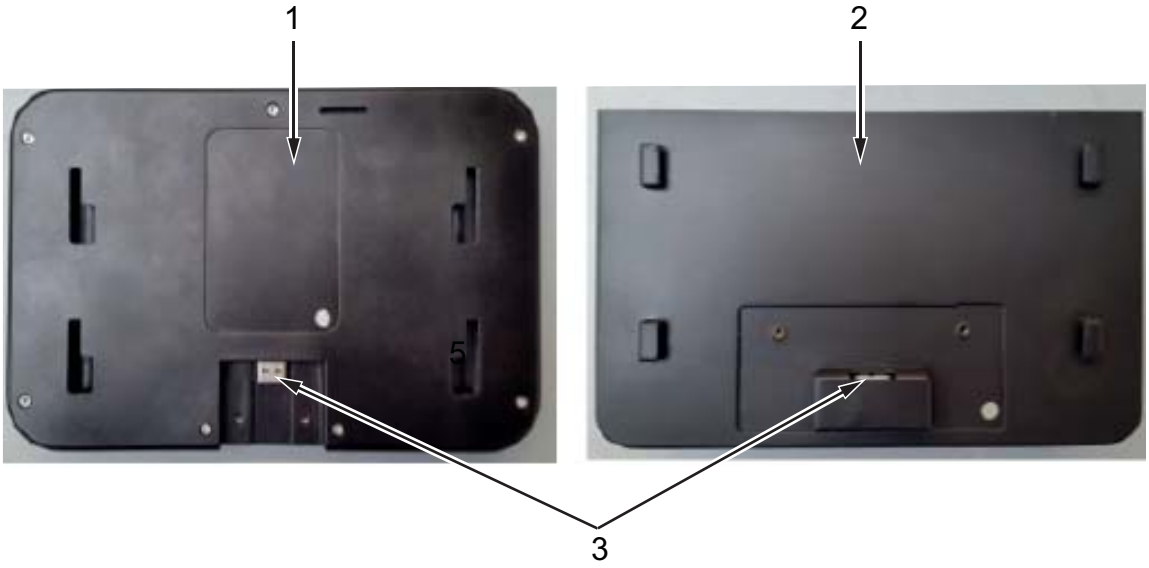


1. Interconnecting Cable
2. USB Port (x2)
3. Ethernet Port (x3)
4. 15 Pin I/O
5. Mains Power Supply
6. Fuse 5 Amp (x2)
7. Power Switch
8. RS232

Figure 3-2: Display Connections

⚠CAUTION

EQUIPMENT DAMAGE.
Ensure that the interconnecting cables are fitted correctly before power on.



1. Touchscreen Display
2. Power Supply Unit (PSU)
3. PSU-GUI Connector

Figure 3-3: Display and Power Supply Unit

Note: *The touch screen display and the PSU can be connected remotely using the supplied cable.*

Section 4 Startup

Introduction

This chapter contains the following topics:

- Switching the Power ON
- Setting the Screen Orientation
- Starting the Printer
- Stopping the Printer
- Understanding Printhead LEDs
- Setting the Time and Date
- Setting the Language and Region Display
- Loading the Ribbon
- Printing a Test Image

4.1 Switching the Power ON

Turn the power switch on the CLARiTY controller to the I (On) position (Figure 4-1).

Note: *Ensure that all cables are connected prior to turning on the printer.*

Figure 4-1: Printer Power Switch

Once power is switched ON, the CLARiTY controller will boot-up and the blue LED (power) on the printer is illuminated. This will take approximately 60 seconds, during which the startup screen appears.

On successful boot-up, the Home screen appears.

An initialization process of 15 seconds begins, during which the printer calibrates the ribbon drive. The status bar flashes the words STARTING UP and the red LED flashes on and off. When the process is complete, the Home screen changes, as follows:

- The status panel changes from STARTING UP to OFFLINE.
- The Consumables area displays the percentage of ribbon remaining.
- In the Control Frame, the Start and Stop buttons are enabled.

Figure 4-2 displays the CLARiTY Home screen in the OFFLINE state .

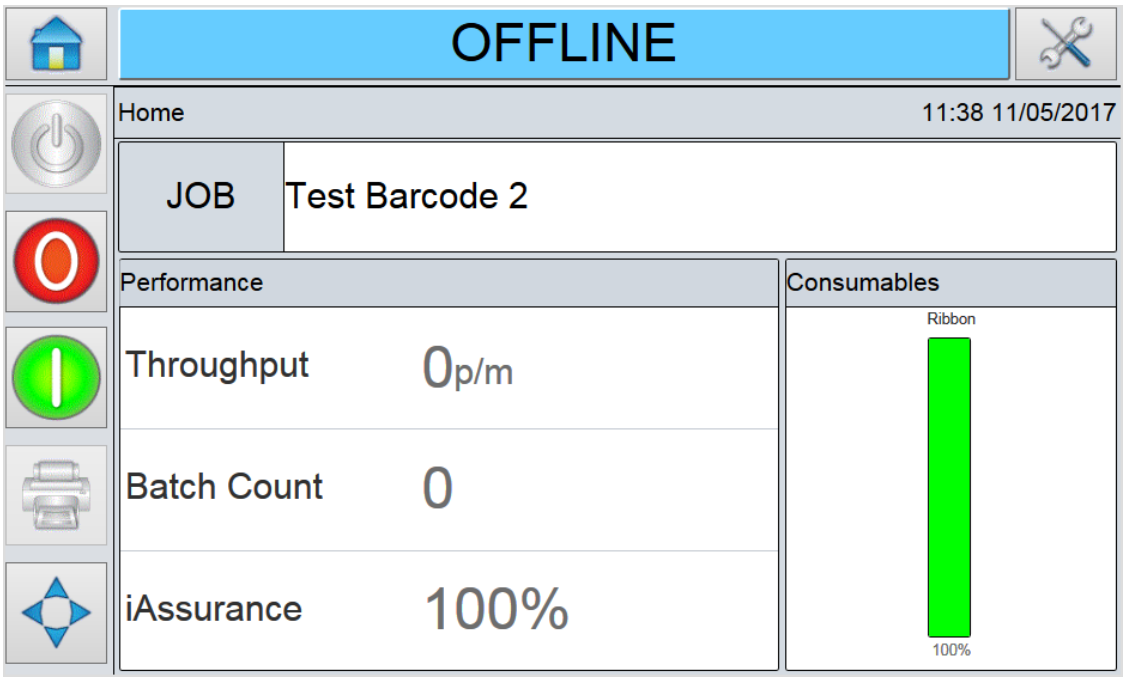


Figure 4-2: CLARiTY Home Screen in the Offline State

4.2 Setting the Screen Orientation

Depending on the position in which the CLARiTY controller is mounted, it may be necessary to rotate the screen image by 180 degrees.

To change the screen orientation, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Control* as shown in Figure 4-3.

Figure 4-3: Screen Orientation

2. Touch Set Screen Orientation. Set Screen Orientation screen is displayed (see Figure 4-4).

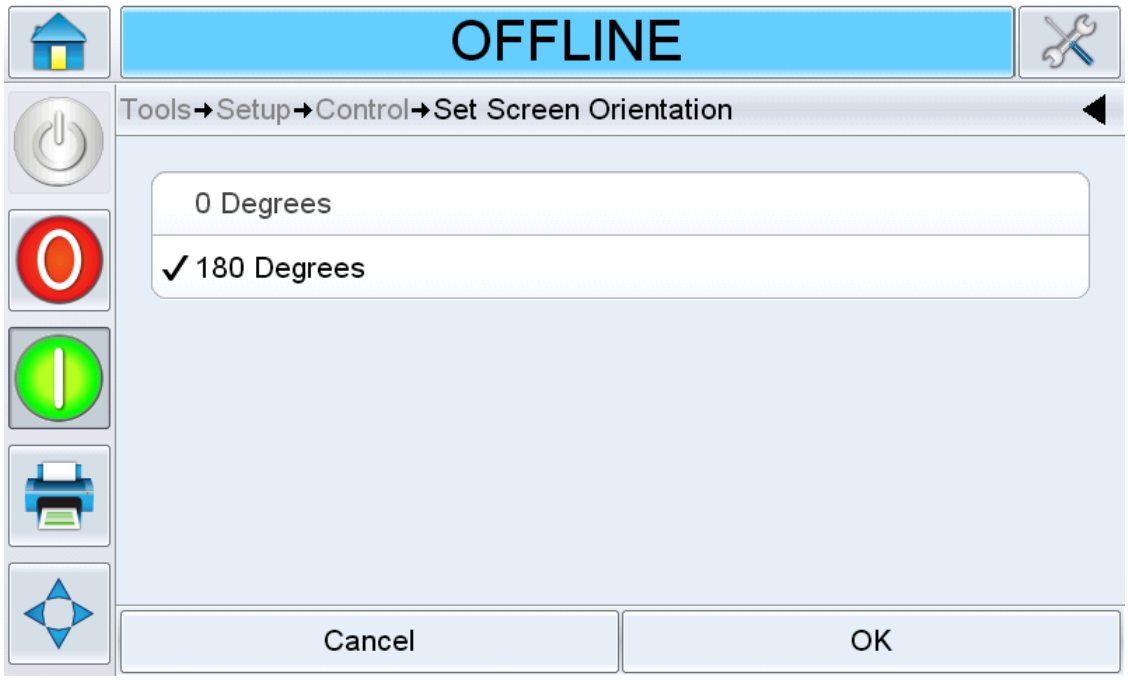


Figure 4-4: Screen Orientation

3. Select 0 or 180 degrees depending on the requirement and touch OK.

4. Touch  to return to the Home Screen.

4.3 Starting the Printer

When the printer is switched on, the printer state changes from the SHUTDOWN state to the STARTING UP state and then to the OFFLINE state. Under this condition, all the external electrical inputs are ignored and the print sensor signals will not trigger a print. This enables you to check if the line and the printer are ready for production, before you switch the printer into the RUNNING state to start printing.

To switch the printer to the RUNNING state, touch  .

Figure 4-5 displays the CLARiTY Home Screen with the printer in the RUNNING state.

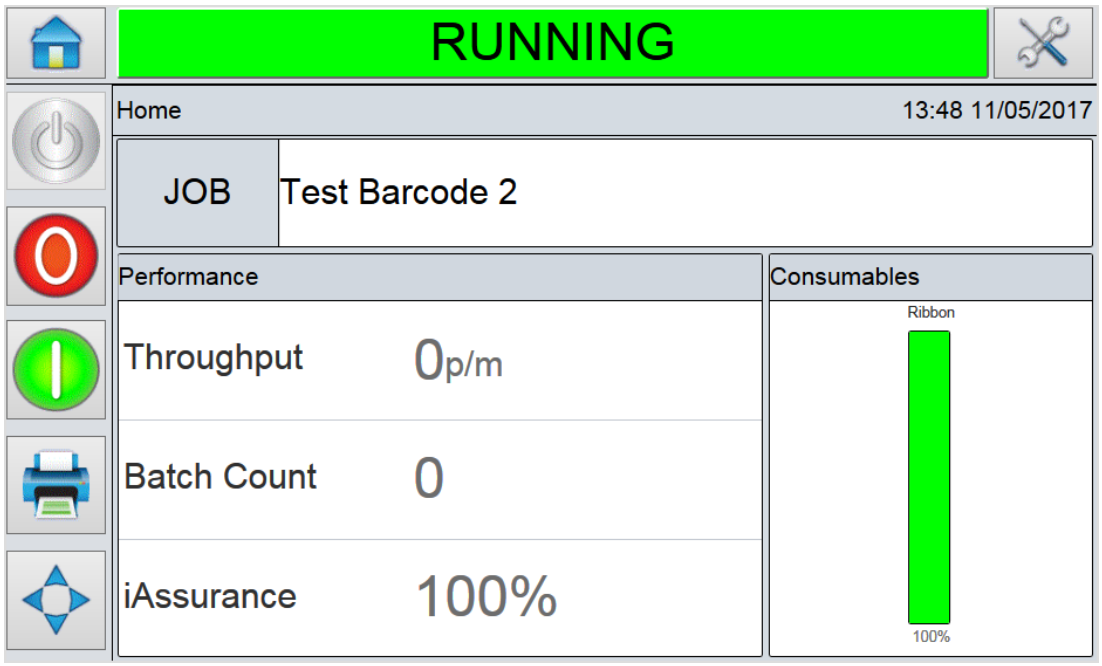


Figure 4-5: CLARiTY Home Screen in the Running State

Note: *If the printer has a fault or a warning, RUNNING will be replaced with FAULT or WARNING. If FAULT is displayed, you must fix the problem before trying to print. Refer "Clearing a Fault Message or Warning" on page 8-15 for further information.*

4.4 Stopping the Printer

To stop the printer from printing, touch  . The printer returns to the OFFLINE state.

4.5 Understanding Printhead LEDs

Table 4-1 lists the printhead LEDs that indicate the status of the printer.

Color	On	Flashing	Off
Red	Printer Offline	Printer in fault	–
Amber	Warning	Printer is printing with warning	No warning or fault
Green	Printer Online	Printhead is printing	–
Blue	Power On	–	No power to printhead

Table 4-1: LED Indicators

Note: *The red LED also flashes when the printer is being powered on and the printhead is initializing.*

4.6 Setting the Time and Date

To set the time and date in the CLARiTY Controller, proceed as follows:

1. Navigate to *Tools* > *Setup* >*Control* > *Date and Time* (see Figure 4-6).

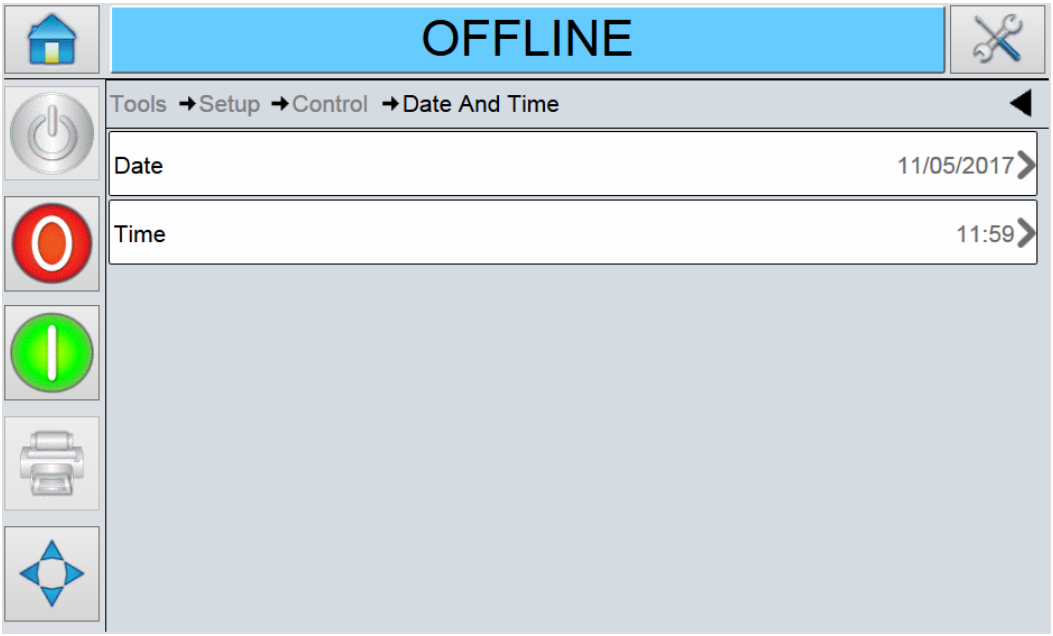


Figure 4-6: CLARiTY Controller Date and Time

2. Touch Date to set the Date, and the calendar page will appear.
3. Select the current month and year using the + and – keys.
4. Touch today's date to select it.
5. Touch OK to save the settings.
6. Touch Time to set the time. The time setup screen is displayed.
7. Use the + and – keys to give a value for each of the settings [Hours, Minutes and (optionally) Seconds].
8. Touch OK to save the settings.
9. Touch to return to the Home Screen.

4.7 Setting the Language and Region Display

To set the language displayed by CLARiTY Controller, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Control* > *Internationalisation*. The current language and region is displayed (see Figure 4-7).

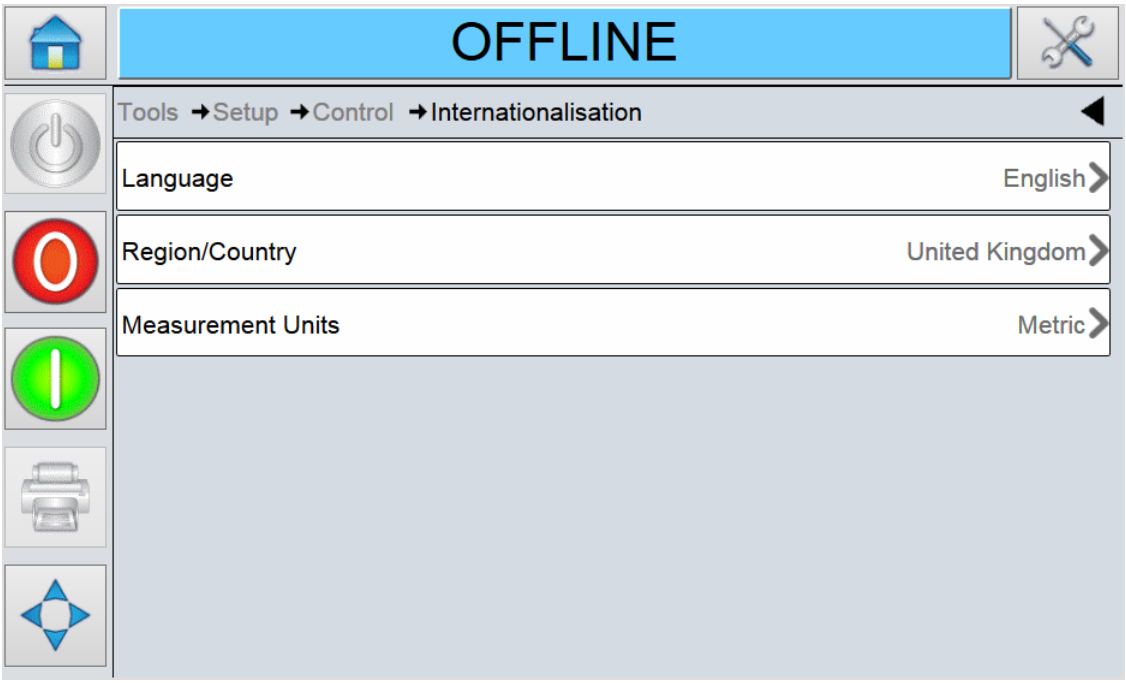


Figure 4-7: Language and Region

2. Touch Region/Country. A list of available regions is displayed.
3. Select the required region from the list (all the currently available regions will be listed) and touch OK .
4. Touch Language. A list of available languages is displayed.
5. Select the required language from the list (all the currently available languages will be listed) and touch OK .
6. Touch  to return to the Home Screen.

The date format displayed in the Home Screen changes according to the region selected.

4.8 Loading the Ribbon

Loading the ribbon involves removing the printer cassette and loading the ribbon roll on the printer cassette.

4.8.1 Removing the Cassette

To remove the cassette, proceed as follows:

1. Ensure that the printer is in the OFFLINE state (Refer Figure 4-2 on page 4-2).
2. Press the circular black release button on the front of the printer, as shown in Figure 4-8. The button clicks as the cassette unlocks from the printer body.

Figure 4-8: Cassette Unlocking

At this point, CLARiTY displays the Cassette Open fault (Figure 4-9).

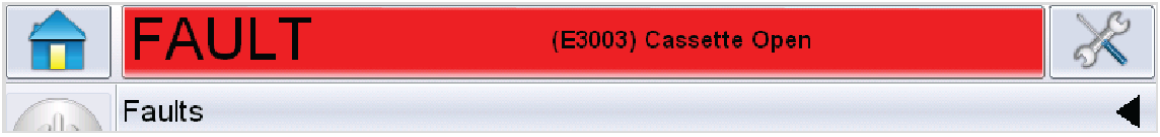


Figure 4-9: Cassette Open Fault

3. Hold the recessed handles and extract the cassette away from the printer body, as shown in Figure 4-10.

Figure 4-10: Cassette Removal

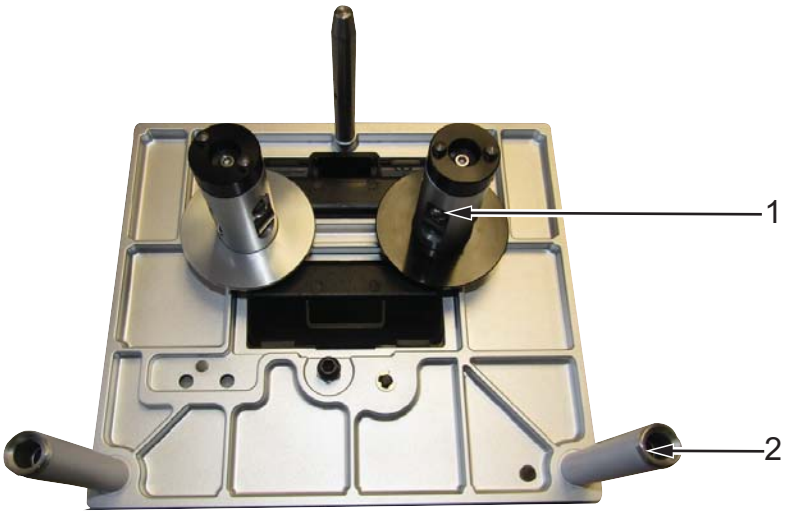
4.8.2 Inserting a New Ribbon

⚠CAUTION

EQUIPMENT DAMAGE.
The use of incompatible ribbon can seriously damage your printer and such damage will not be covered by your printer warranty. Use only the ribbon that is approved by your supplier.

To insert a new ribbon, proceed as follows:

1. Put the cassette down on a flat surface with the ribbon spools facing upwards and the ribbon rollers towards you, as shown in Figure 4-11.



1. Ribbon Spool (x2)
2. Ribbon Roller (x2)

Figure 4-11: Cassette Removal

2. Open a new shrink-wrapped roll of ribbon, and unwind about 12 inches of ribbon (30 cm).

   The spool holders on the cassette have different colored discs:

   - The black disc is for the new roll of ribbon.
   - The silver disk is for the empty roll.

   When the printer is running, the new ribbon unwinds from the black holder, and winds onto the silver holder.

3. Slide the full spool onto the holder that has the black disc. The roll should be located such that the ribbon unwinds in the direction as shown in Figure 4-12.

   Note: *Ensure that the spool is pushed completely down onto the holder.*

Figure 4-12: Ribbon Spool Installation

4. Route the ribbon so that it:
   - unspools from the outside of the full roll
   - goes around the outside of the white roller that is nearest to the full roll
   - runs along the bottom of the cassette
   - goes around the outside of the second white roller
   - passes around the outside of the empty spool
5. Slide the empty spool completely down onto the holder that has the silver disc.

6. Turn the empty spool by hand to take up any excess ribbon. Stop turning the empty spool when the full spool starts to rotate (Figure 4-13).

   Note: *If the supplied ribbon has a transparent section or printed leader at the start, rotate the empty spool to take up all the transparent ribbon.*

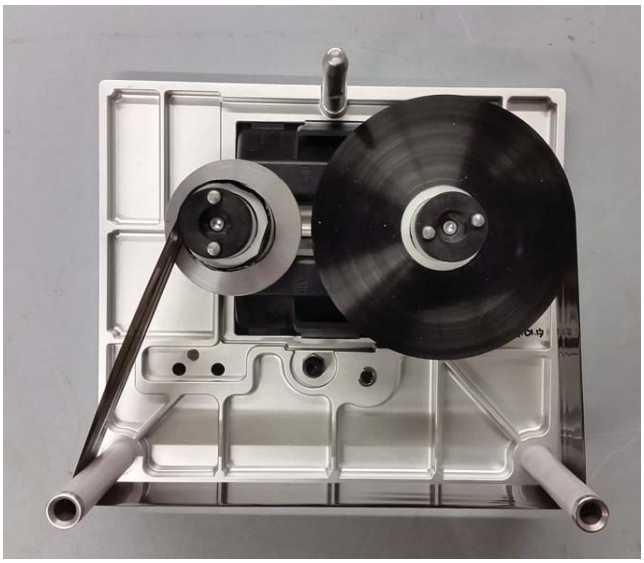


Figure 4-13: Ribbon Spool Routing

Note: *Ensure the following:*

- *The ribbon runs in between the printhead and the peel roller*
- *The ribbon is not twisted or caught*
- *The ribbon has not become loose while replacing the cassette*

4.8.3 Removing a Used Ribbon

To remove the used ribbon, proceed as follows:

1. Pull the two ribbon spools (one full of used ribbon) from the cassette firmly, as shown in Figure 4-14. The discs that are situated under each spool can be used to lever the spool off the cassette.

Figure 4-14: Ribbon Spools Removal

2. Discard the used ribbon and spools.

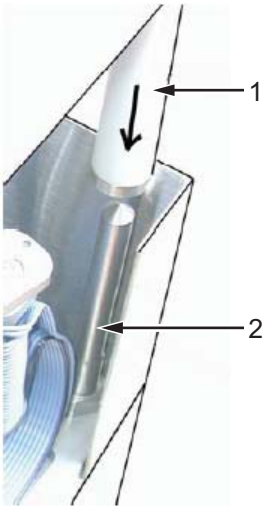
   Sometimes you might need to remove a ribbon temporarily (perhaps because you need a ribbon of a different width for a job). When you put a partly used ribbon reel back into the printer, ensure that:

   - You push the unused reel onto the black disc holder.
   - You push the partly used reel onto the silver disc holder.

4.8.4 Reinstalling the Cassette

To reinstall the cassette, proceed as follows:

1. Hold the cassette above the printer body. Align the guide pin on the cassette into the hole in the baseplate and align the two locating rods (Figure 4-15) that protrude from the printer body into the holes at the ends of the two ribbon rollers.



1. Ribbon Roller
2. Locating Rod

Figure 4-15: Locating Rod Alignment

2. Push the cassette onto the printer body and press until it locks into place.

   The Cassette Open fault message clears automatically, and the status changes to OFFLINE state.

4.8.5 Using Ribbons of Different Widths and, Colors

Different widths of ribbon can be used in the 53 mm variant of the printhead:

- The maximum ribbon width setting for the 53 mm printer is 55 mm.

  The minimum ribbon width for the 53 mm printer is 20 mm.

⚠CAUTION

RIBBON SETTING.
Failure to set the ribbon width correctly can cause a Ribbon break message to be displayed (even though the ribbon is intact). It can also cause the ribbon to wind too tightly onto the used ribbon spool. This can make it difficult to remove the spool of used ribbon.

When a ribbon of different width is to be inserted, the new values should be entered in CLARiTY. To do this, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Consumables* > *Ribbon Width* (see Figure 4-16).

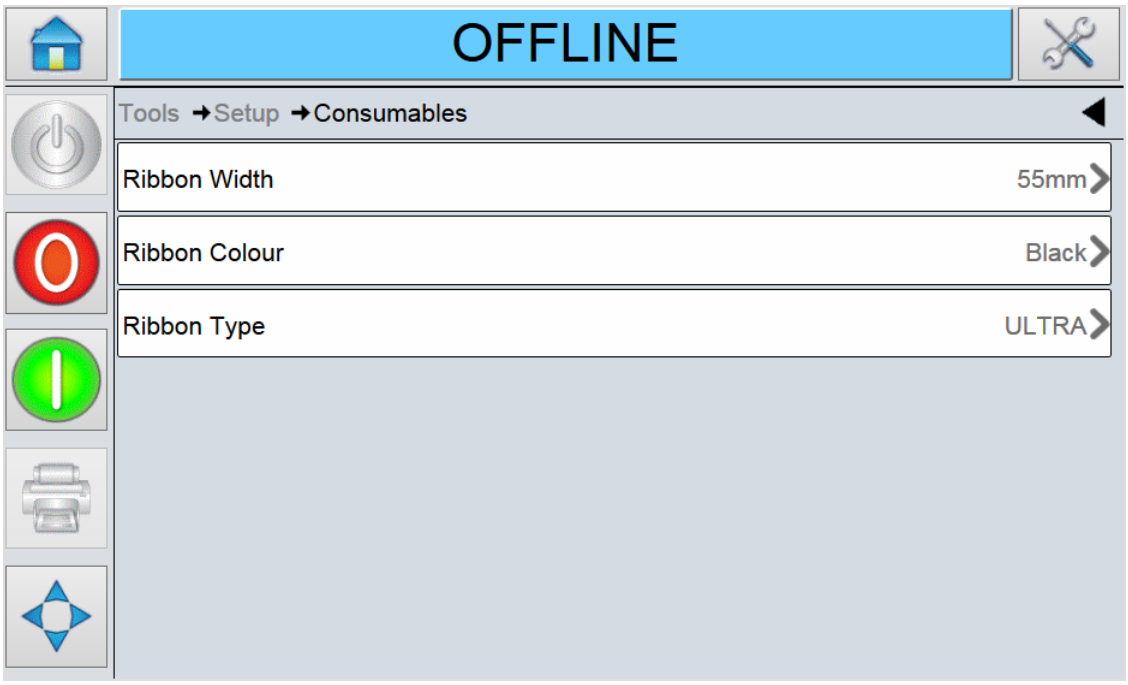


Figure 4-16: Printer Ribbon Parameters

2. Enter a new value using the keypad as shown in the Figure 4-17.

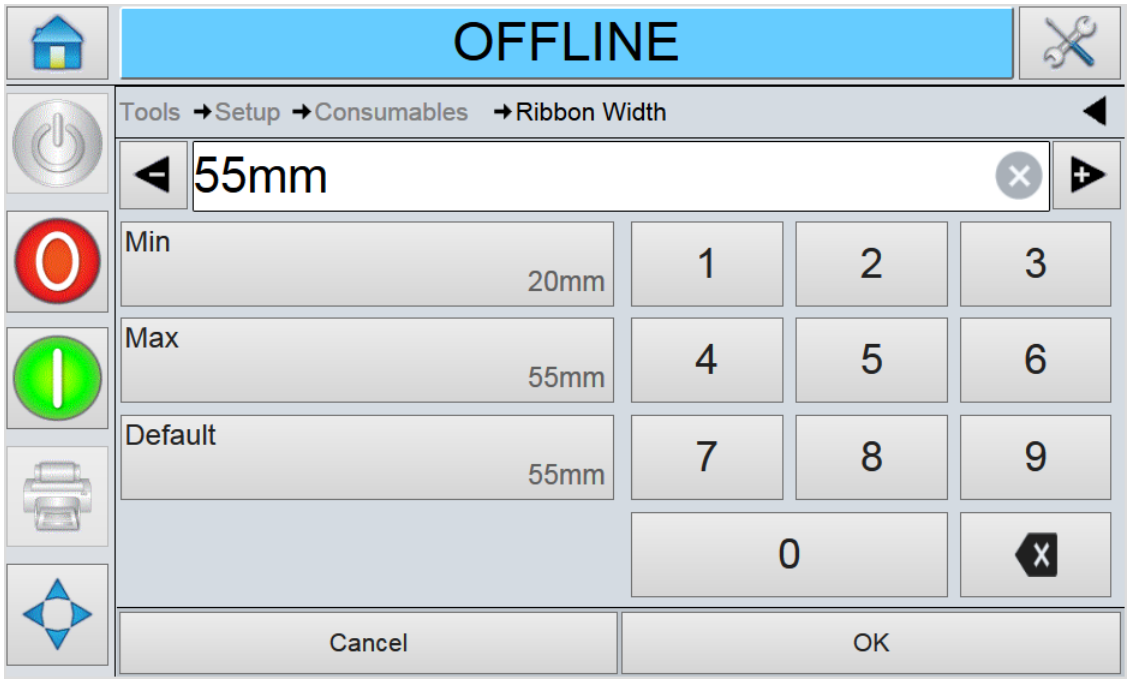


Figure 4-17: Printer Ribbon Width

3. Touch OK to save the settings.

Different colors of ribbon have different thickness. To ensure accurate end of reel warnings, select the correct color of the ribbon being used by the printer. To select ribbon color, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Consumables* > *Ribbon Colour* as shown in Figure 4-16 on page 4-13.
2. Select the correct colour from the list as shown in Figure 4-18.

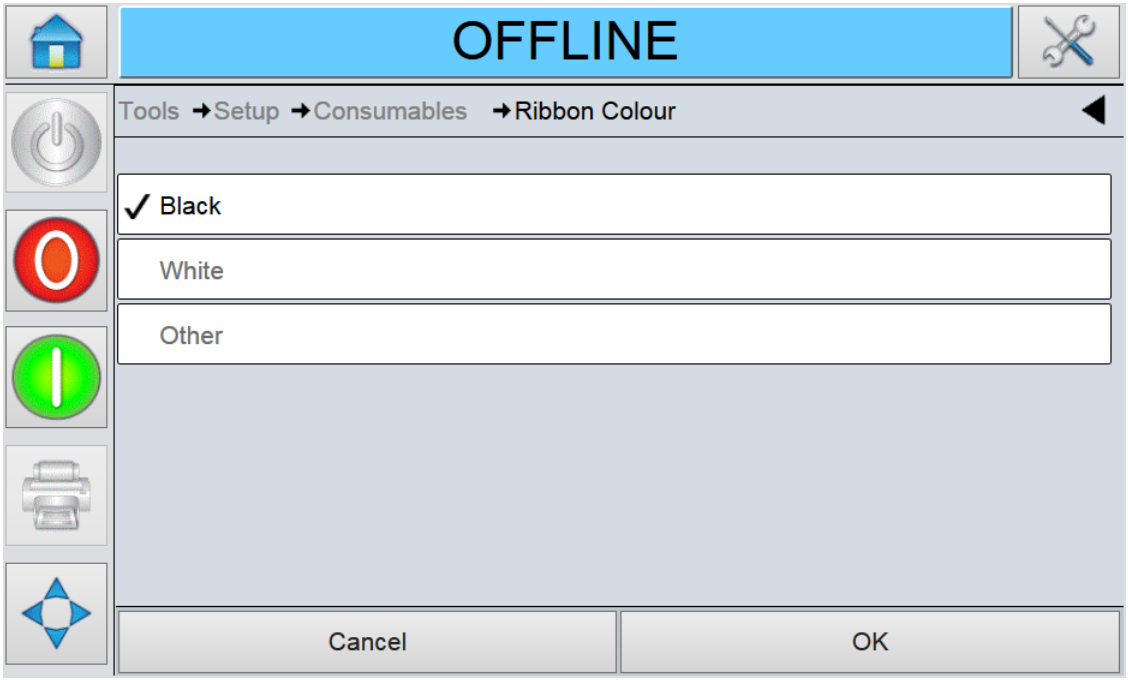


Figure 4-18: Printer Ribbon Colour

3. Touch OK to save the settings.
4. Touch  to return to the Home Screen.

4.8.6 Checking the Printer Ribbon Supply

The Consumables area of the Home Screen (Figure 4-19) displays a ribbon meter, showing the amount of unused ribbon remaining in the cassette.

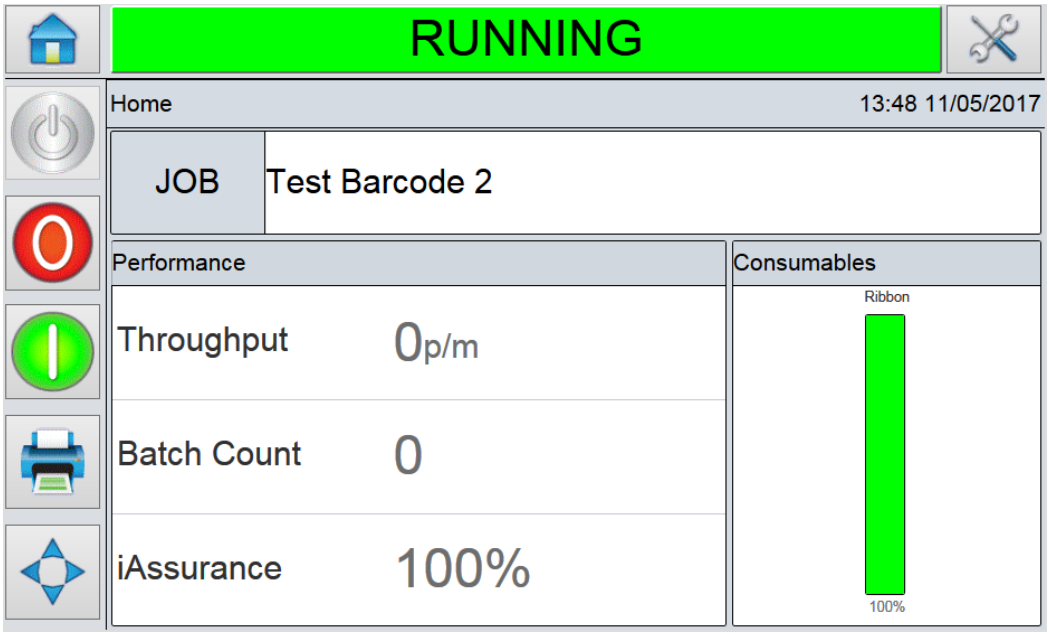


Figure 4-19: Printer Ribbon Supply

The meter displays three different colors to help check the ribbon level at a glance.

- GREEN = Adequate ribbon availability
- YELLOW = Approximately 50 m (164 ft) of ribbon remaining
- RED = Approximately 20 m (66 ft) of ribbon remaining

4.9 Printing a Test Image

Typically, the printer is used on a packaging machine where the print is triggered by a sensor or a Programmable Logic Controller (PLC).

A test image can be printed before running the printer to check if the printed image is of acceptable quality. The Test Print button (Figure 4-20), will appear greyed out if this feature has been disabled by the installation engineer. Also, the printer must be set to the RUNNING state for the Test Print button to be available.

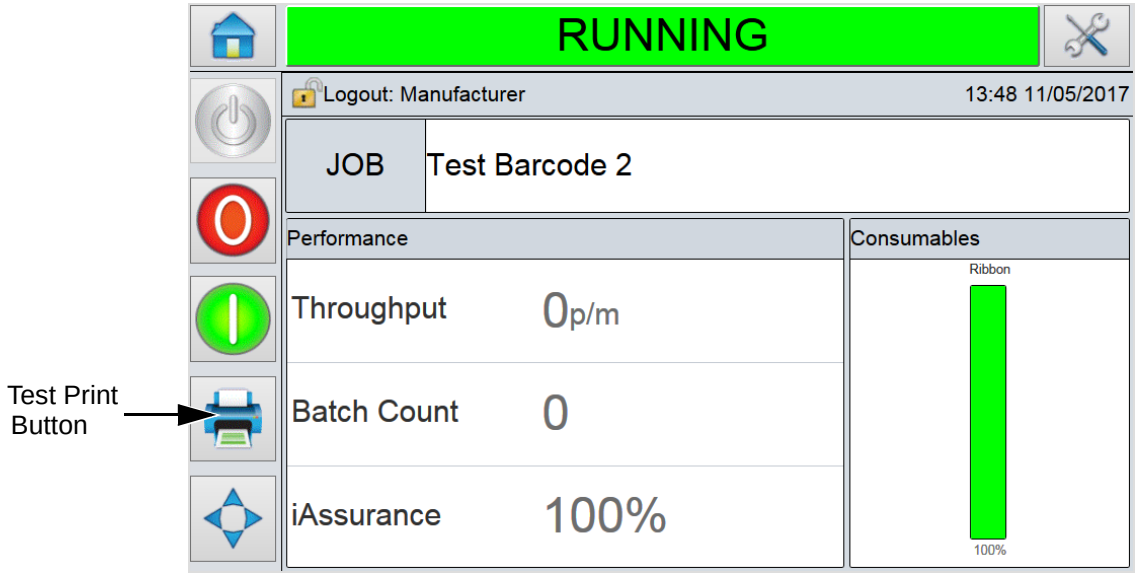


Figure 4-20: Test Print Button

To perform a test print, proceed as follows:

1. If the printer is in the OFFLINE state, press  to put the printer in the RUNNING state.
2. Ensure that the packaging film is placed under the printhead, if the printer is in an intermittent application, otherwise ensure that the packaging film is travelling past the printhead.
3. Touch  in the CLARiTY's control frame (Figure 4-20). The printer performs the test print.
4. Examine the test print to check if the image has been printed correctly.

This chapter contains the following topics:

- Getting started with the CLARiTY
- Using the Home Screen
- Using the Tools Screen
- Password Protection
- Master/Slave Printers

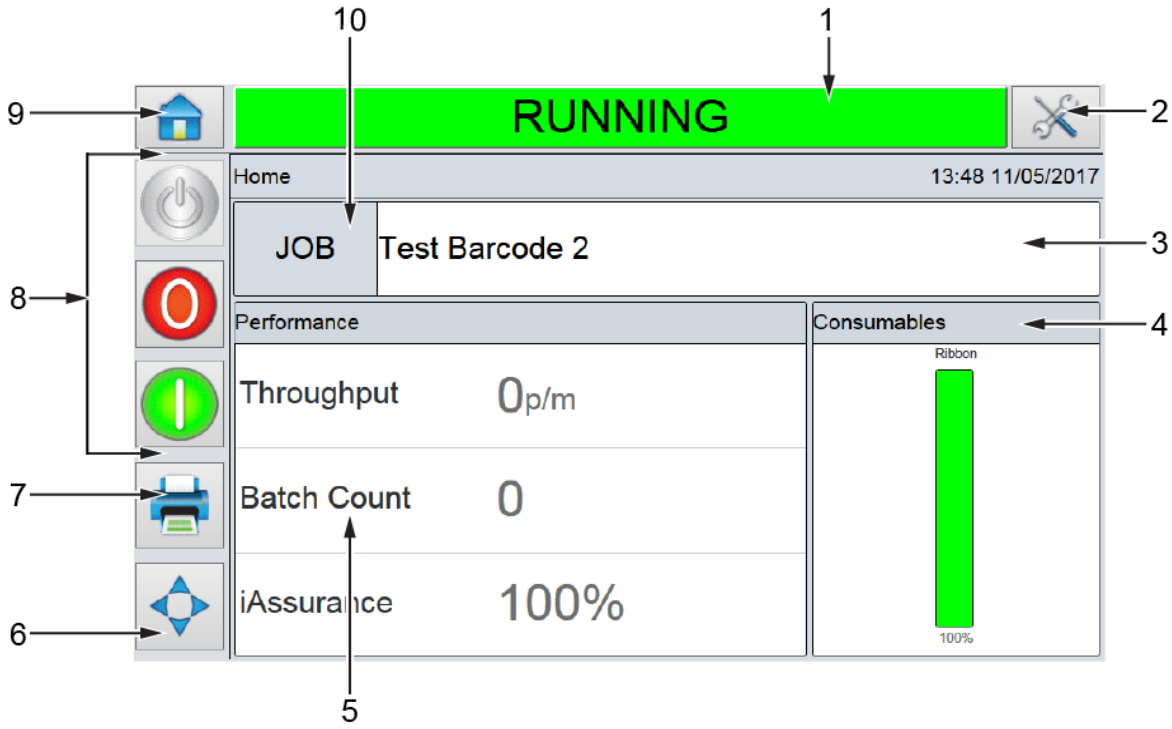
5.1 Getting started with the CLARiTY

CLARiTY is an icon-based operator control system. It has an easy-to-use touch screen. All technical aspects of the printer setup and control are accessed through the Tools button.

Figure 5-1 shows the Home screen of the CLARiTY operator control system.

Note: *If password protection is enabled, the options available may be restricted dependent on user level. Refer to "Password Protection" on page 5-42 for more information.*

5.2 Using the Home Screen



1. Status Bar
2. Tools Button
3. Current Job Details Bar
4. Consumables
5. Performance Information
6. Print Position
7. Print Button
8. System Control Buttons
9. Home Button
10. Job Select Button

Figure 5-1: CLARiTY Home Screen

⚠WARNING

PERSONAL INJURY.
The printer starts printing if you touch the status bar when the printer is in OFFLINE mode. Make sure that you do not touch the status bar if the printer is not required to run.

The Home screen allows the user to access the below options:

Buttons	Description
	Returns to the Home screen.
	Opens the Tools screen.
Test Barcode 2	Displays the information about the current job and when selected, opens the current job details screen.
JOB	Shows the list of jobs available, including the current job. Once a job is selected, the job can be loaded for printing. If the fields are user enabled, the user can confirm before printing.
	Changes the print state from SHUTDOWN to OFFLINE and vice-versa.
	Starts the print.
	Stops the print.
	Prints a test image. ***Note:*** *This option is only present if option is enabled on the printer using CLARiTY Configuration Manager.*
	Adjusts the print position in the horizontal and vertical direction.

Table 5-1: Home Screen

The Home screen allows the user to access the below options:

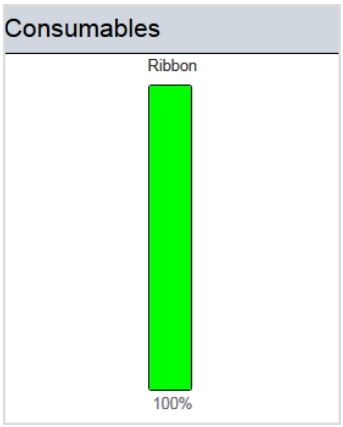
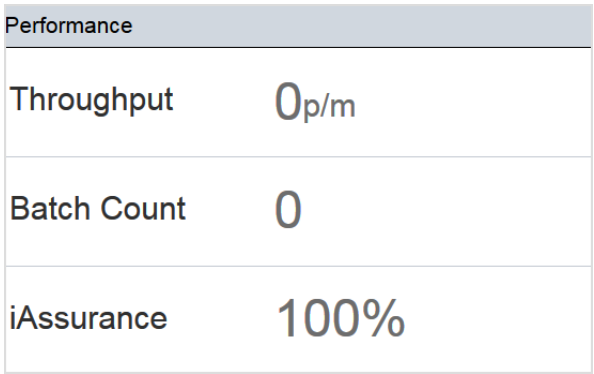
Buttons	Description
	Displays the status of the printer. • **RUNNING**: Printer is switched on and ready to print when the proper print trigger is received. • **OFFLINE**: Printer is switched on but not ready to print. • **SHUTDOWN**: Power to the printhead is disabled and the printer is not ready to print. • **WARNING**: Warnings are available that the Operator should be aware of, the printer is not prevented from operating. • **FAULT**: Faults are available that the Operator should rectify, before the printer can start.
	Displays the Consumables screen showing ribbon information. For more information, refer "Consumables" on page 5-4.
	Displays the following printer performance information: • Throughput: Throughput of the printer in prints per minute since the current Job was loaded. • Batch Count: Number of prints since the current Job was loaded. • iAssurance: Percentage of good prints detected. Selecting this area opens the Performance screen showing additional statistical information on the printer. For more information, refer "Performance Screen" on page 5-6.

Table 5-2: Home Screen

5.2.1 Consumables

Touch the Consumables area on the Home screen. The Consumable screen opens and displays the ribbon information (percentage of ribbon remaining) as shown in Figure 5-2.

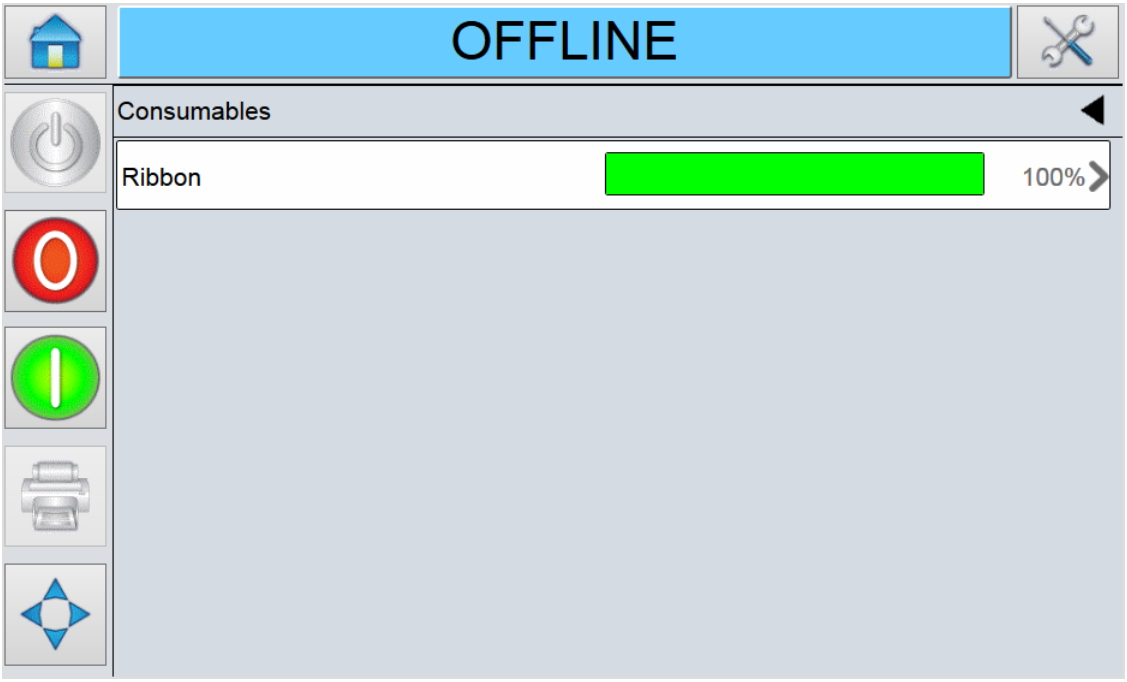


Figure 5-2: Consumables Screen

Touch the ribbon information to view the ribbon options as shown in Figure 5-3.

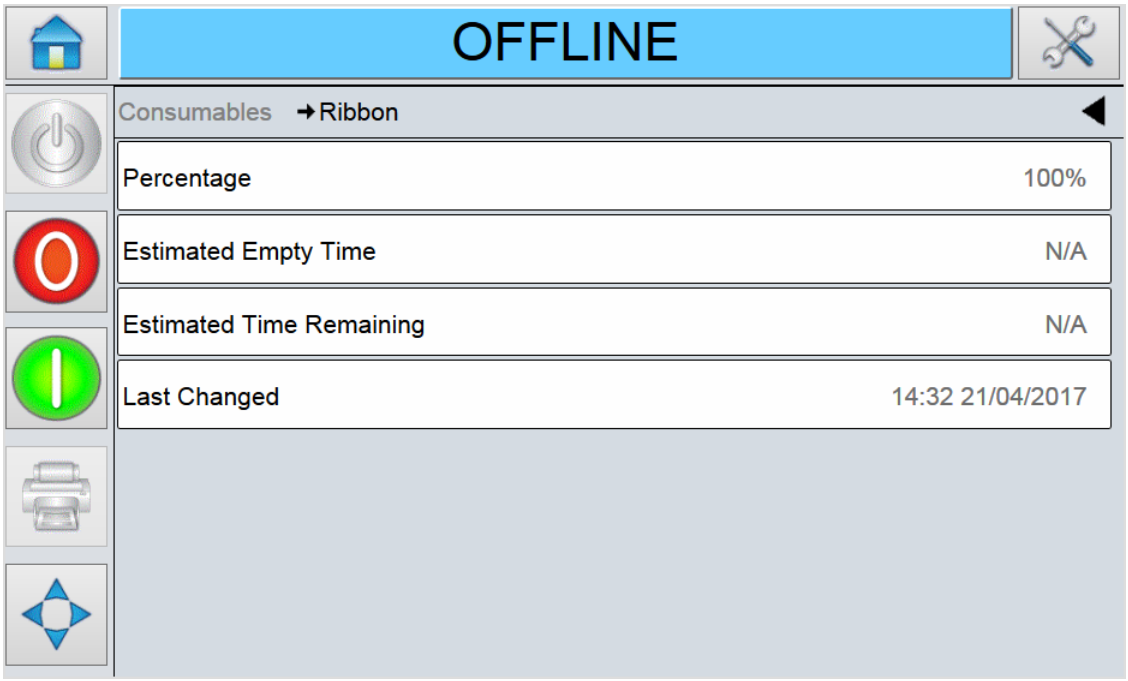


Figure 5-3: Ribbon Screen

The Ribbon screen displays the following options as shown in Table 5-3.

Option	Description
Percentage	The percentage of the ribbon available.
Estimated Empty Time	The estimated time by when the ribbon will empty based on the current job and the production rate.
Estimated Time Remaining	The estimated time remaining based on the current job and the production rate.
Last Changed	The date and time when the ribbon was last changed.

Table 5-3: Ribbon Options

5.2.2 Performance Screen

Touch the Performance area on the Home screen. The Performance screen opens as shown in Figure 5-4.

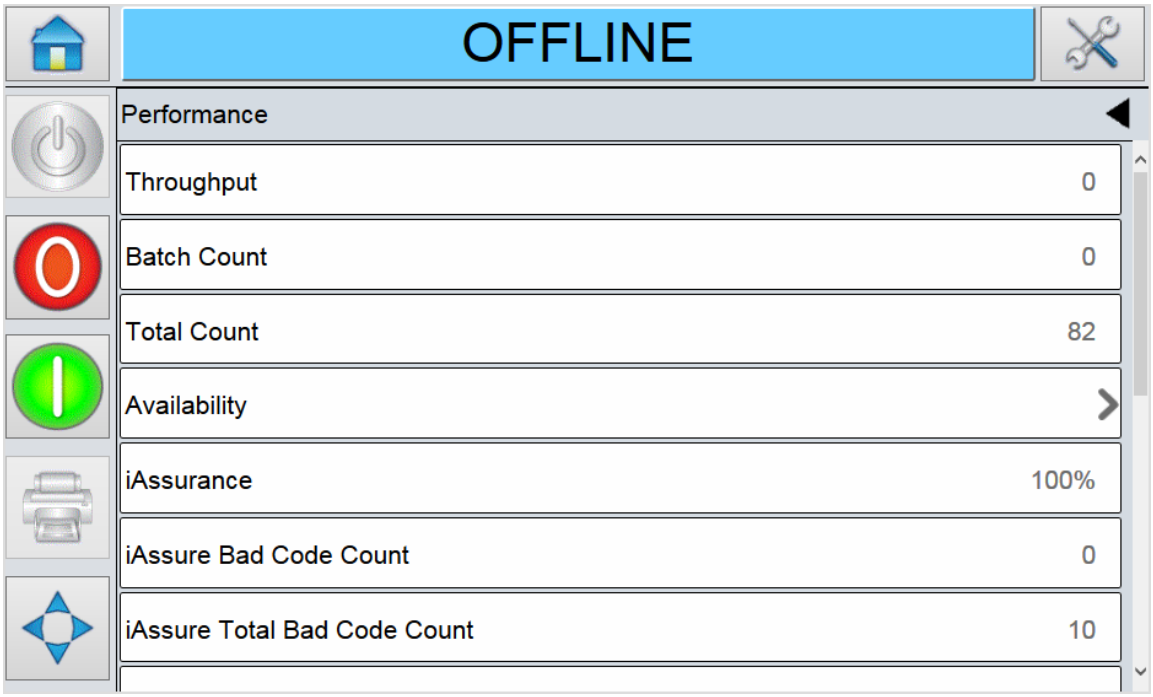


Figure 5-4: Performance Screen

Note: *Use the scroll bar to scroll up and down the screen.*

The Performance screen displays the following options as shown in Table 5-4.

Option	Description
Throughput	The throughput of the printer in prints per minute since the current job was loaded.
Batch Count	The number of prints since the current Job was loaded.
Total Count	The number of prints over the life of the printer.
Batch Barcode Counts	The number of barcode prints since the current Job was loaded (this menu is available only when the barcode scanner is attached).
Availability	The printer availability and operational availability information. For more information, refer "Availability" on page B-1.
iAssurance	The % of good prints detected.
iAssurance Bad Code Count	The current count of bad codes (for the current run).
iAssurance Total Bad Code Count	The total number of bad codes detected.

Table 5-4: Performance Option

Option	Description
iAssurance Production Stop	The number of times production has stopped.
Ignored Print Signals	The number of ignored print signals.
Short Term Speed	The average speed over 5 minutes of operation.
Short term Efficiency	The efficiency of actual prints per minute over the nominated prints per minute which is given as a input for a period of 5 minutes.
Long Term Speed	The average speed over 10 minutes of operation.
Long term Efficiency	The efficiency of actual prints per minute over the nominated prints per minute which is given as a input for a period of 10 minutes.
Trend Speed	The trend speed value.
Trend Efficiency	The trend efficiency value.
Nominal Speed	Enter the required packs per minute speed.

Table 5-4: Performance Option (continued)

5.2.2.1 iAssurance Screen

Videojet DataFlex 6530 iAssure technology can reduce the waste and rework by conducting print quality spotchecks in real time and detect recurring print defects.

The printer has a built-in sensor which creates an image of the printed ribbon as the ribbon moves forward. The printer compares the captured image to the intended image and evaluates any area of mismatch to determine the pass/fail of the code. The printer triggers a fault when a pre-set number of consecutive codes fail that will either stop the line or send the product into a reject or inspection area (if the line is configured with one).

Using the iAssure screen

1. Touch the Performance area on the Home screen. The Performance screen opens as shown in (Figure 5-4 on page 5-6). Scroll down to view the iAssure metric. Refer Table 5-4 on page 5-6 for more information on the iAssure metrics.
2. Navigate to *Tools* > *Diagnostics* >*Printhead* > *iAssure* > *View Latest Image* to view the last printed image captured.

Common Print Quality Errors Detected by iAssure

Table 5-5 describes common print quality errors samples and their causes.

Sample	Cause
	Overprint
	Ribbon Crease
	Worn Print Surface

Table 5-5: Samples of Print Quality Errors

5.3 Using the Tools Screen

Tools screen displays the tools available for the printer.

Touch  on the Home screen to access the Tools screen. The Tools screen opens as shown in Figure 5-5.

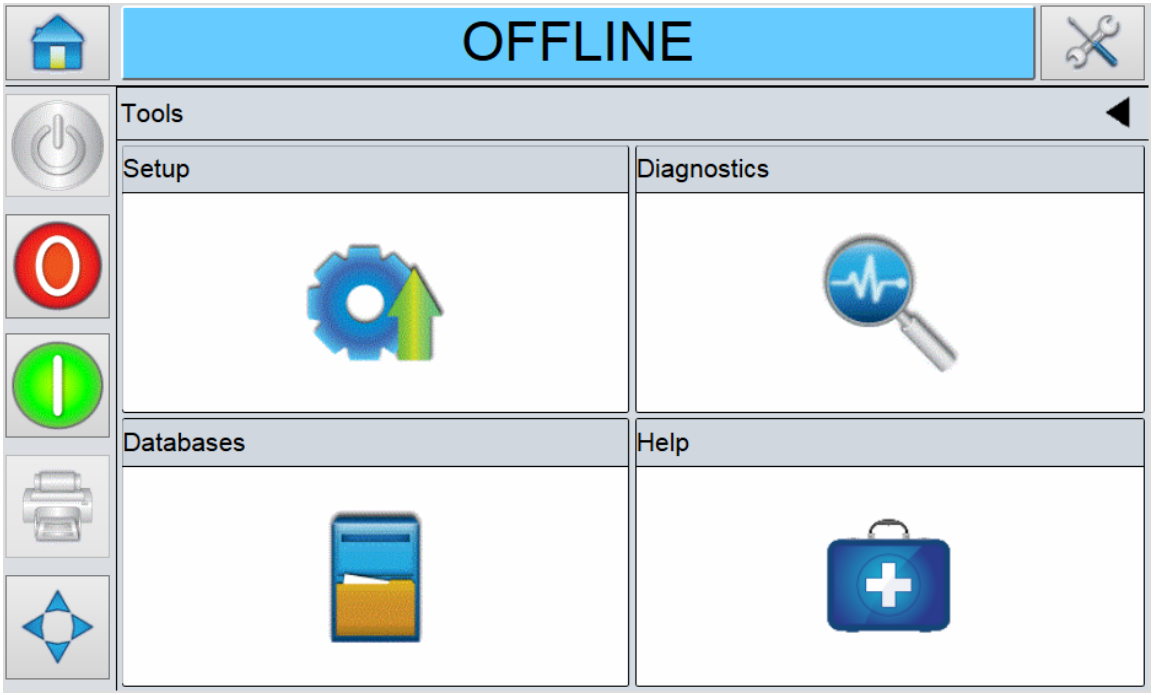


Figure 5-5: Tools Screen

The Tools screen provides access to the following options as shown in Table 5-6.

Option	Description
Setup	Options to view and modify the printer setup parameters. For more information on Setup screen refer Service Manual.
Diagnostics	Information on the current values of key parameters for the printer setup as well as that support the printer operation and can assist in troubleshooting issues. Refer to "Using the Diagnostics Screen" on page 5-10.
Databases	Information on available databases, their capacity and the stored jobs. Refer to "Using the Database Screen" on page 5-38.
Help	The tutorial videos and documentation for specific tasks and basic troubleshooting. Refer to "Using the Help Screen" on page 5-40

Table 5-6: Tools Option

5.3.1 Using the Diagnostics Screen

Touch  on the Tools screen to access the Diagnostics screen (Figure 5-6).

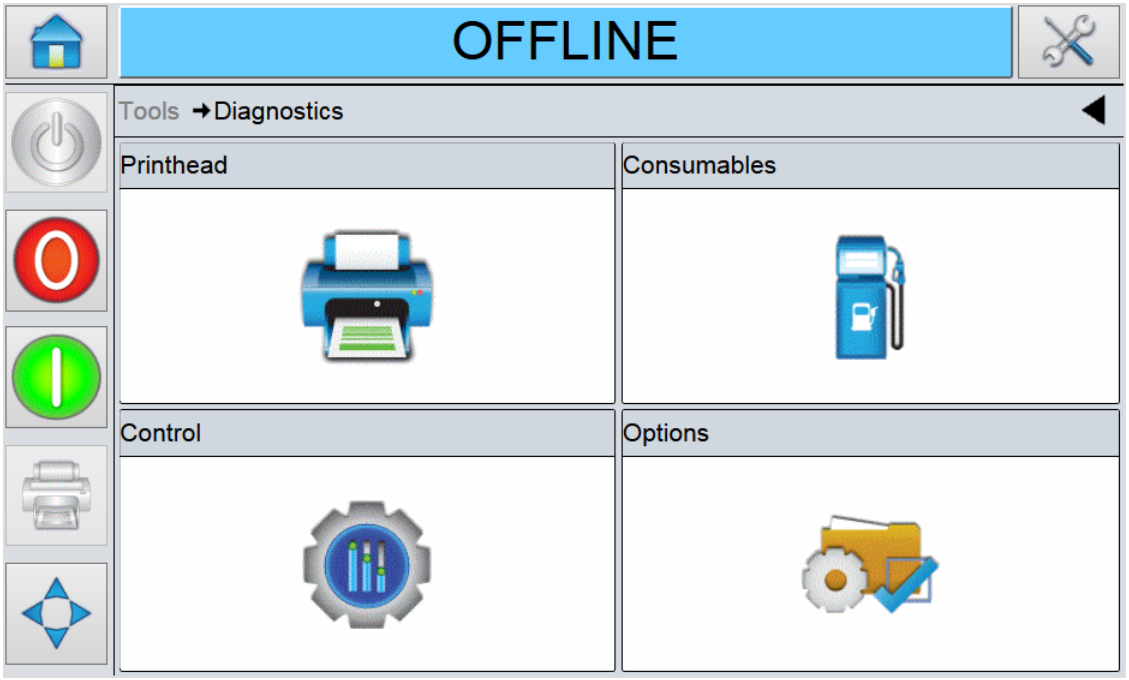


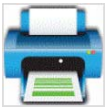
Figure 5-6: Diagnostics Screen

The Diagnostics screen displays the following parameters:

Option	Description
Printhead	Information on the status of printer components, the event log, printhead health graph and encoder profiles. Refer to "Using the Printhead Screen" on page 5-11.
Consumables	Information on the ribbon supply and waste diameter, ribbon tension and printing mode. Refer to "Using the Consumables Screen" on page 5-27.
Control	Information on system information, versions and communications configuration. Refer to "Using the Control Screen" on page 5-28
Options	There are no options available at this time.

Table 5-7: Diagnostics Screen Description

5.3.1.1 Using the Printhead Screen

Touch  on the Diagnostics screen to access the printhead parameters (Figure 5-7).

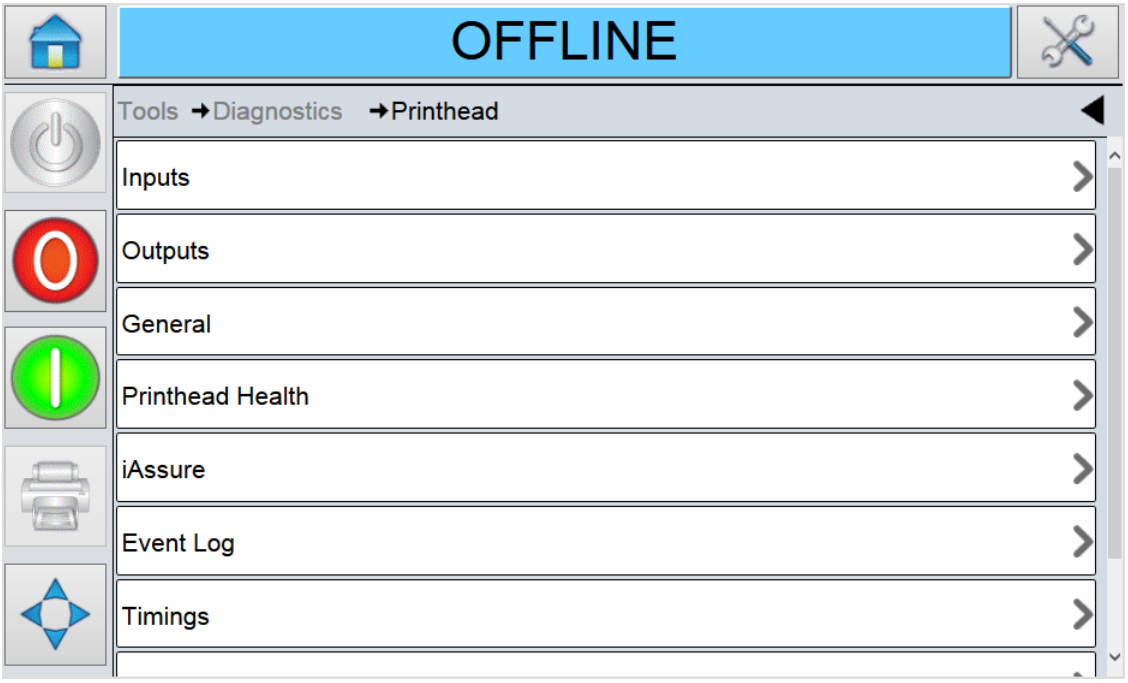


Figure 5-7: Printhead Diagnostics Screen

The Printhead screen displays the following parameters:

Option	Description
Inputs	The status of the three external inputs parameters and the internal input parameters. Refer to "Using the Inputs Screen" on page 5-13.
Outputs	The status of a physical output on the printer. Refer to "Using the Outputs Screen" on page 5-15.
General	The general parameters like Printhead Mode, Printing Mode, High Throughput Mode etc. Refer to "Using the General Screen" on page 5-16.
Printhead Health	The printhead health log. Refer to "Using the Printhead Health Screen" on page 5-16.
iAssure	The iAssure parameters. Refer to "Using the iAssure Screen" on page 5-18.
Event Log	The log of events responsible for the printer downtime. Refer to "Using the Event Log Screen" on page 5-19.
Timings	The count for various printer operations. Refer to "Using the Timings Screen" on page 5-20.
Encoder Profiles	The encoder profile. Refer to "Using the Encoder Profiles Screen" on page 5-21.

Table 5-8: Printhead Screen Description

Using the Inputs Screen

Touch Inputs on the Printhead screen to access the input parameters (Figure 5-8).

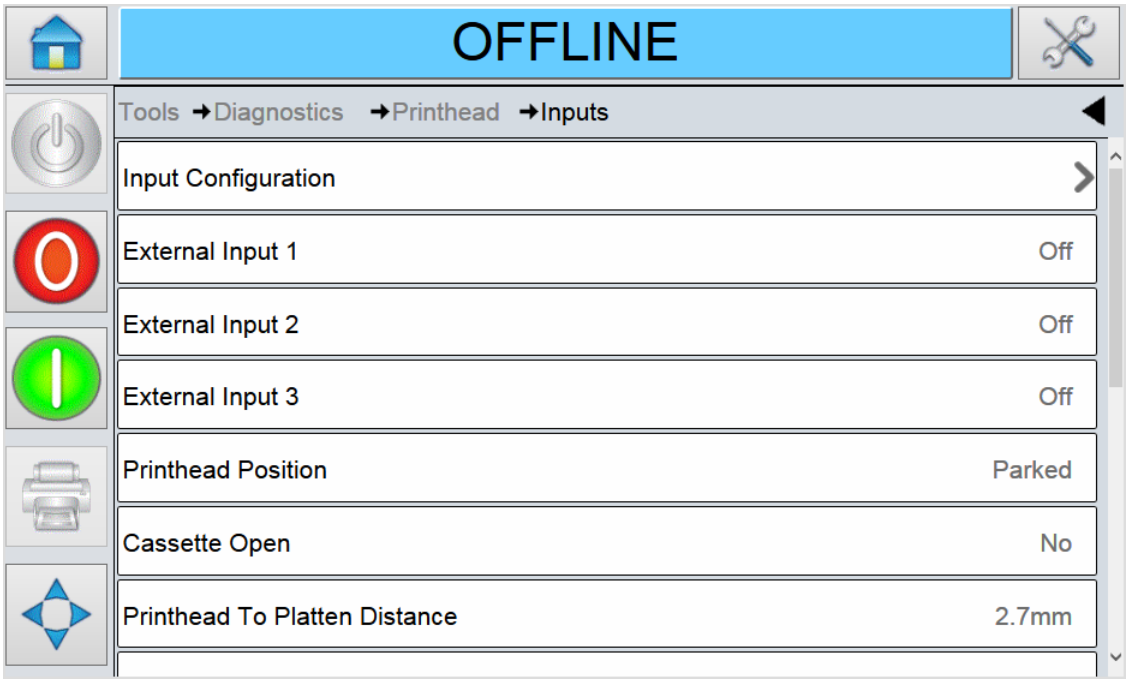


Figure 5-8: Inputs Screen

The Inputs screen provides access to the following parameters:

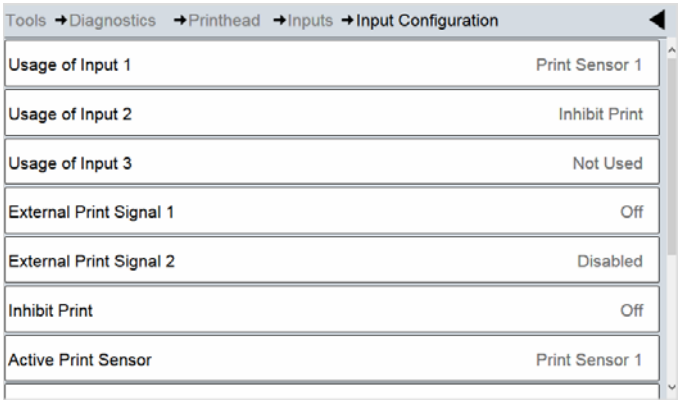
Option	Description
Input configuration 	Displays the current configuration of each input.
External Inputs 1, 2, 3	The real-time status of each of the three inputs.
Printhead Position	The position of the printhead. The printhead home sensor detects whether the head is parked or not.

Table 5-9: Inputs Screen Description

Option	Description
Cassette Open	The status of the cassette. The cassette home sensor detects whether the cassette is open or closed.
Printhead to Platten Distance	The distance between the printhead and platten.
Printhead Position Sensor	The position of the printhead position sensor.
Ribbon Waste Position Sensor	The position of the ribbon waste position sensor.
Optical Calibration Sensor	The optical calibration sensor value.
iAssure Sensor	The iAssure sensor value.
Motor Volts	The voltage supply to the stepper motors.
24 Volts Supply	The health status of the voltage supply for the printers I/O.
Printhead Volts	The drive voltage of the printhead. This varies, depending on the printhead resistance but should be in the range of 23V.
Printhead Temperature	The real-time reading of the thermistor on the thermal printhead.
Controller PCB Temperature	The real-time reading of the thermistor on the CLARiTY Controller PCB.

Table 5-9: Inputs Screen Description (continued)

Using the Outputs Screen

Touch Outputs on the Printhead screen to access the output parameters (Figure 5-9).

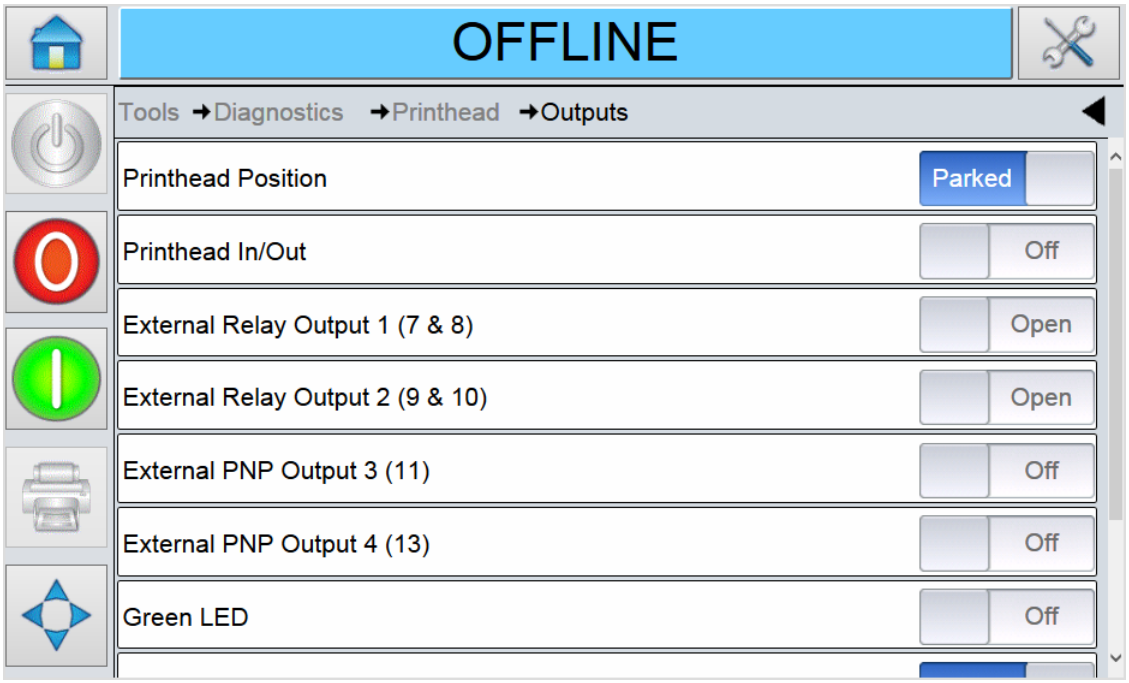


Figure 5-9: Outputs Screen

The Outputs screen provides access to the following parameters:

Note: *Touching the Toggle button allows the user to force the state of an output, Open/Closed or On/Off, which can be useful for diagnostic purposes.*

Option	Description
Printhead Position	Moves the printhead from its parked to its ready to print position.
Printhead In/Out	Moves the printhead from its ready to print to printing position.
External Relay and PNP Outputs	The status of the 2 configurable relay outputs and 2 configurable PNP 24V outputs.
Green LED	Toggles the green LED at the front of the printer.
Red LED	Toggles the red LED at the front of the printer.
Optical Calibration LEDs	Displays the output of the iOptical Calibration LEDs.
iAssure LEDs	Displays the output of the iAssure LEDs.

Table 5-10: Outputs Screen Description

Using the General Screen

Touch General on the Printhead screen to access the parameters (Figure 5-10).

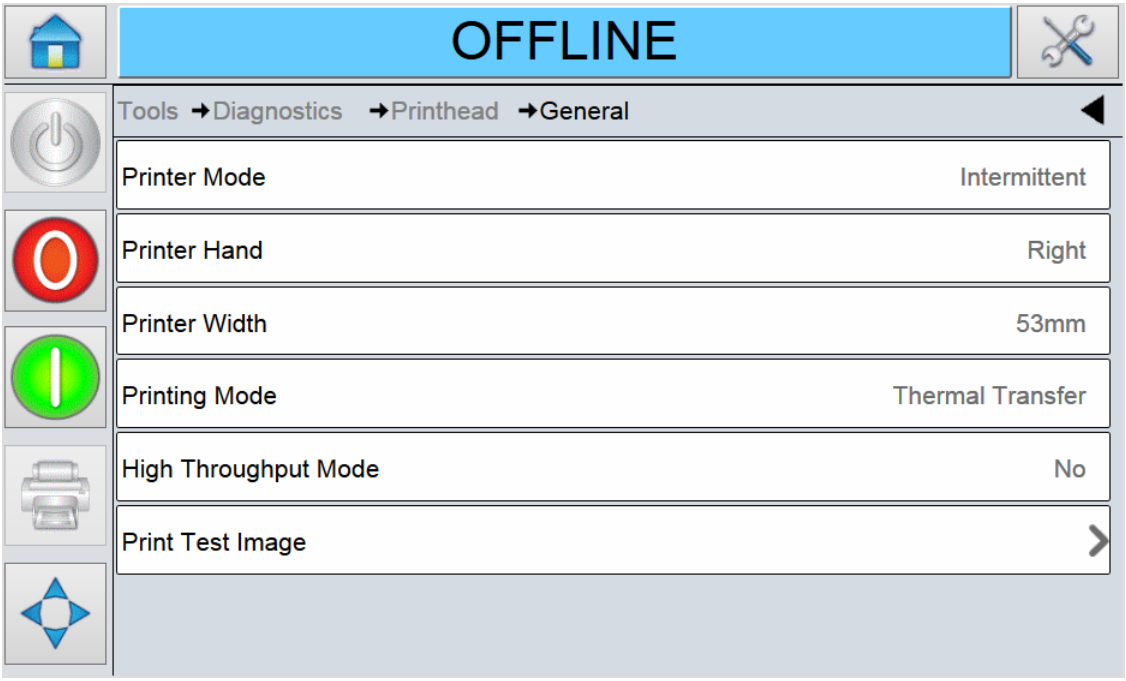


Figure 5-10: General Screen

The General screen provides access to the following parameters:

Option	Description
Printer Mode	The mode of the printer. The following options are available: • Intermittent • Continuous
Printer Hand	The configuration of the printer. The following options are available: • Right Handed (RH) • Left Handed (LH)
Printer Width	The printhead width configured as 53 mm.
Printing Mode	The printing mode. The following options are available: • Thermal Transfer (that uses a ribbon) • Direct (that uses the printer without a ribbon and printing directly on to thermal sensitive labels).
High Throughput Mode	High Throughput Mode is enabled or not.
Print Test Image	Opens up a window to print a test image.

Table 5-11: General Screen Description

Using the Printhead Health Screen

Touch Printhead Health on the Printhead screen to access the printhead health parameters (Figure 5-11).

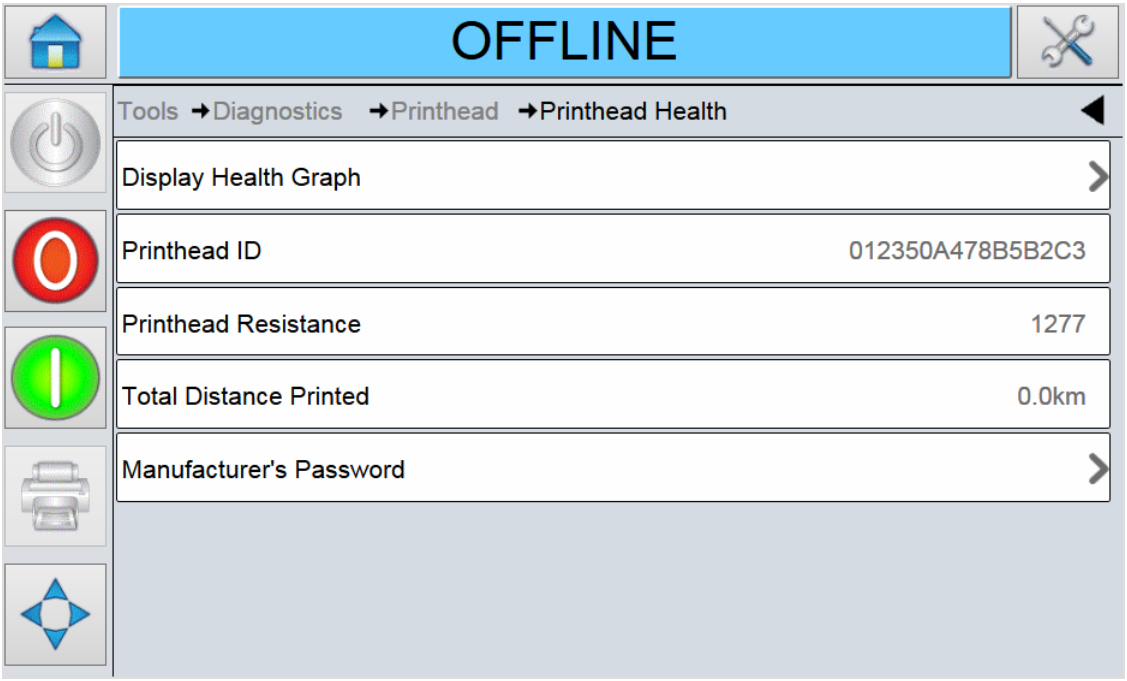


Figure 5-11: Printhead Health Screen

The Printhead Health screen provides access to the following parameters:

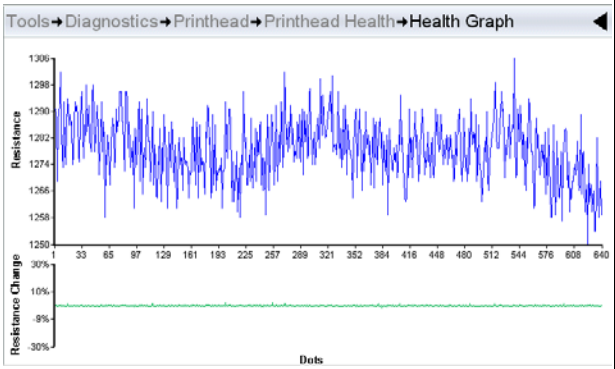
Option	Description
Health graph 	The printhead health graph.
Printhead ID	The printhead ID.
Printhead Resistance	The printhead resistance. The printhead resistance value matches the drive electronics of the printer to the resistance characteristics of the printhead.
Total Distance Printed	The total distance printed in km.
Manufacturer's Password	Enter the manufacturer's password to enable higher level options.

Table 5-12: Printhead Health Screen Description

Using the iAssure Screen

Touch iAssure on the Printhead screen to access the iAssure parameters (Figure 5-12).

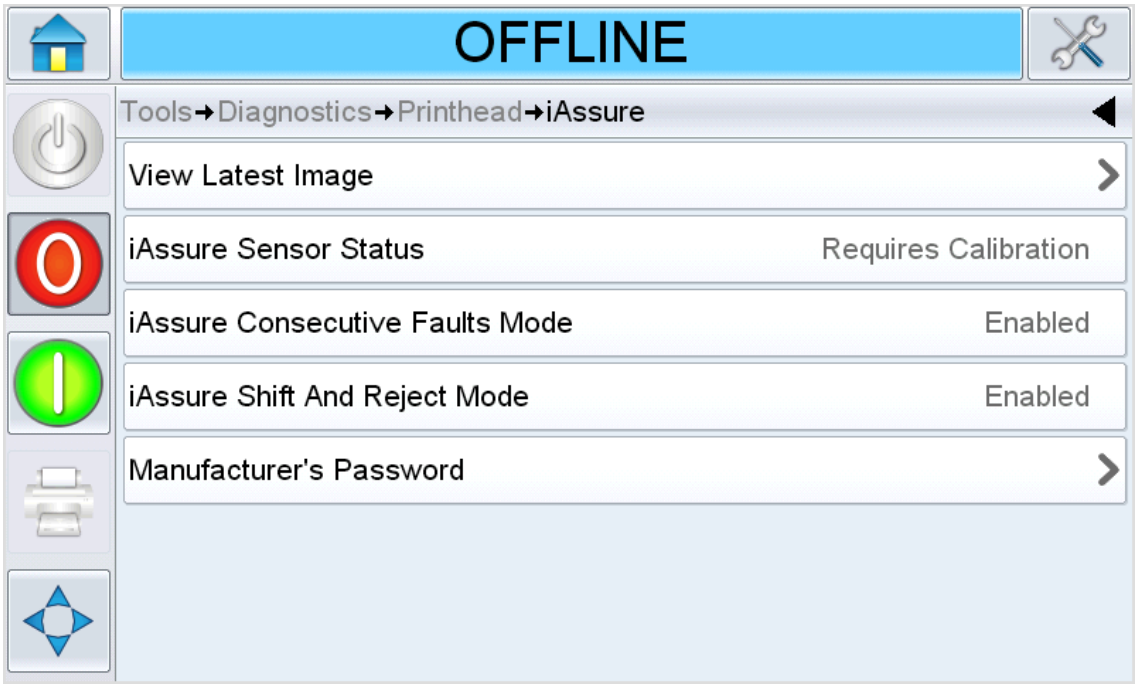


Figure 5-12: iAssure Screen

The iAssure screen provides access to the following parameters:

Option	Description
View Latest Image 	The last image captured by iAssure. ***Note:*** *The last image captured image is updated in real time for each print*
iAssure Sensor Status	Displays whether the iAssure sensor requires calibration or not.
iAssure Consecutive Faults Mode	Displays the status of the consecutive faults mode.
iAssure Shift And Reject Mode	Displays the status of the shift and reject mode.
Manufacturer's Password	Enter the manufacturer's password to enable higher level options.

Table 5-13: iAssure Screen Description

Using the Event Log Screen

Touch Event Log on the Printhead screen to access the options (Figure 5-13).

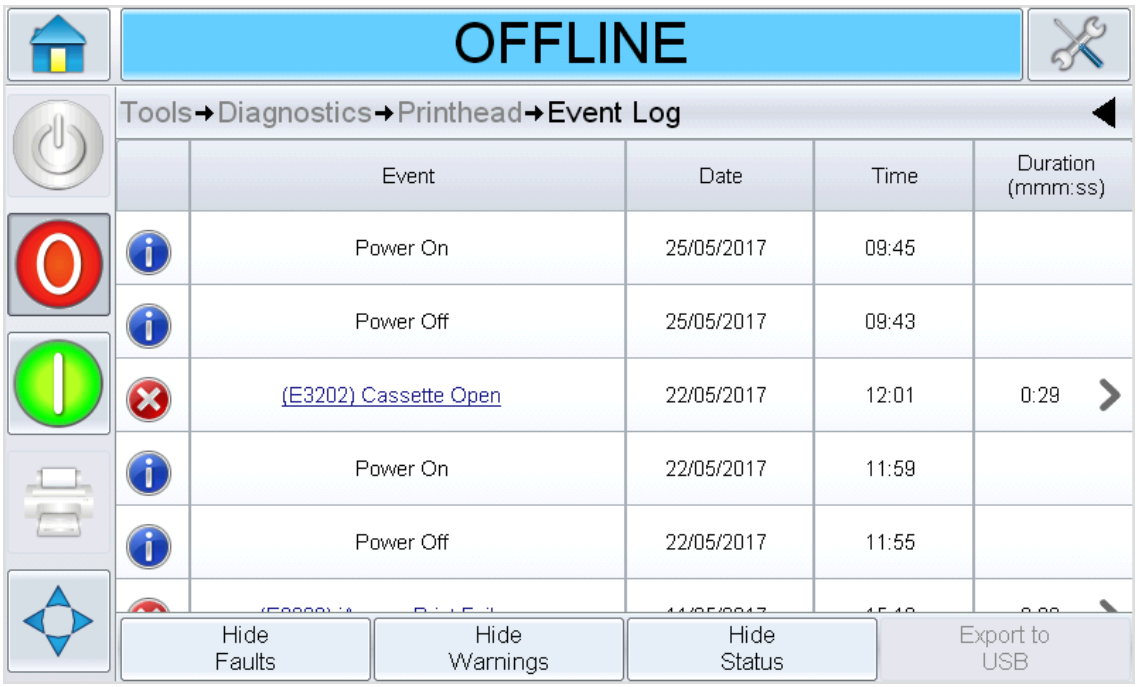


Figure 5-13: Event Log Screen

The Event Log screen provides access to the following options:

Option	Description
Hide Faults	Shows/hides any fault events from the event log list.
Hide Warnings	Shows/hides any warning events from the event log list.
Hide Status	Shows/hides any status events from the event log list.
Export to USB	Exports the event log and associated parameter snapshots to USB stick. The UI will take the user through the steps required to download to USB.

Table 5-14: iAssure Screen Description

Using the Timings Screen

Touch Timings on the Printhead screen to access the parameters (Figure 5-14).

This diagnostic screen provides information about the last print or print job selection that was made. It is useful in high throughput applications to understand what the printer is trying to do, especially in continuous motion applications.

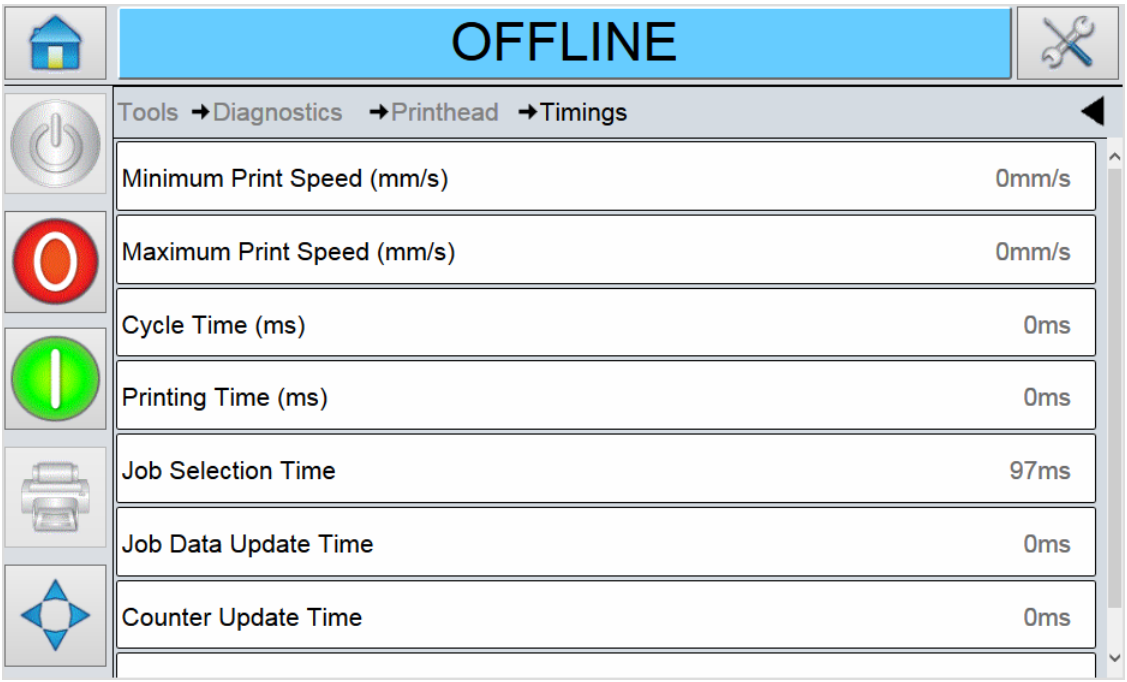


Figure 5-14: Timings Screen

The Timings screen displays the following parameters:

Option	Description
Minimum Print Speed (mm/s)	The actual minimum printing speed achieved during the previous printing cycle.
Maximum Print Speed (mm/s)	The actual maximum printing speed achieved during the last printing cycle.
Cycle Time (ms)	The total time completed from the end of the print registration delay to the end of the printing operation.
Printing Time (ms)	The actual time taken to print the image in the previous printing cycle.
Job Selection Time	The time taken in selecting the last job from the moment the image was confirmed, to being ready to print.
Job Data Update Time	The total time taken to update all the dynamic variables in the image (time, date, counters).
Counter Update Time	The time taken to update all the counter fields in the image.
Time/Date Update Time	The time taken to update all the time/date fields in the image.

Table 5-15: Timings Screen Description

Using the Encoder Profiles Screen

Encoder profiling is designed for continuous motion applications.

Encoder profiling allows the printer to capture the behavior of the packaging film from the encoder and plot the information onto a useful CLARiTY screen which also shows an 'on-line oscilloscope' of the machine inputs and outputs at the same time. The printer can be optimised for print performance by avoiding areas of the host machine cycle that have excessive linear speeds or rapid changes in speed.

Figure 5-15 shows a typical screen display of an encoder profile.

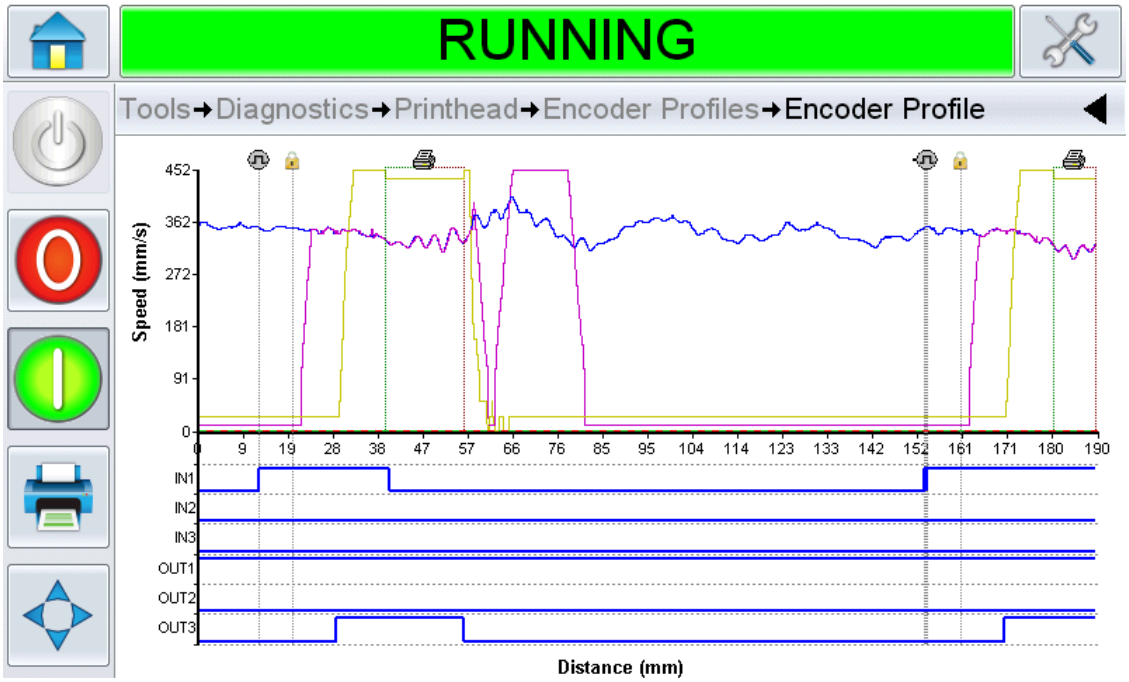


Figure 5-15: Encoder Profile Graph

The graph displayed on the CLARiTY Operator Interface takes into account, settings for 'Maximum Print Speed', current 'Registration' settings and the image size printed.

Using these values, the graph shows where the print signal was received and where the print would occur within the profile, as shown in Figure 5-15.

This feature can be used to solve problems such as, drifting print registration caused by the packaging film travelling above the maximum print speed of the printer during the registration phase.

To capture the Encoder profiling on the CLARiTY screen, proceed as follows:

1. Touch Encoder Profiles on the Printhead screen to access the Encoder Profiles parameters (Figure 5-16).

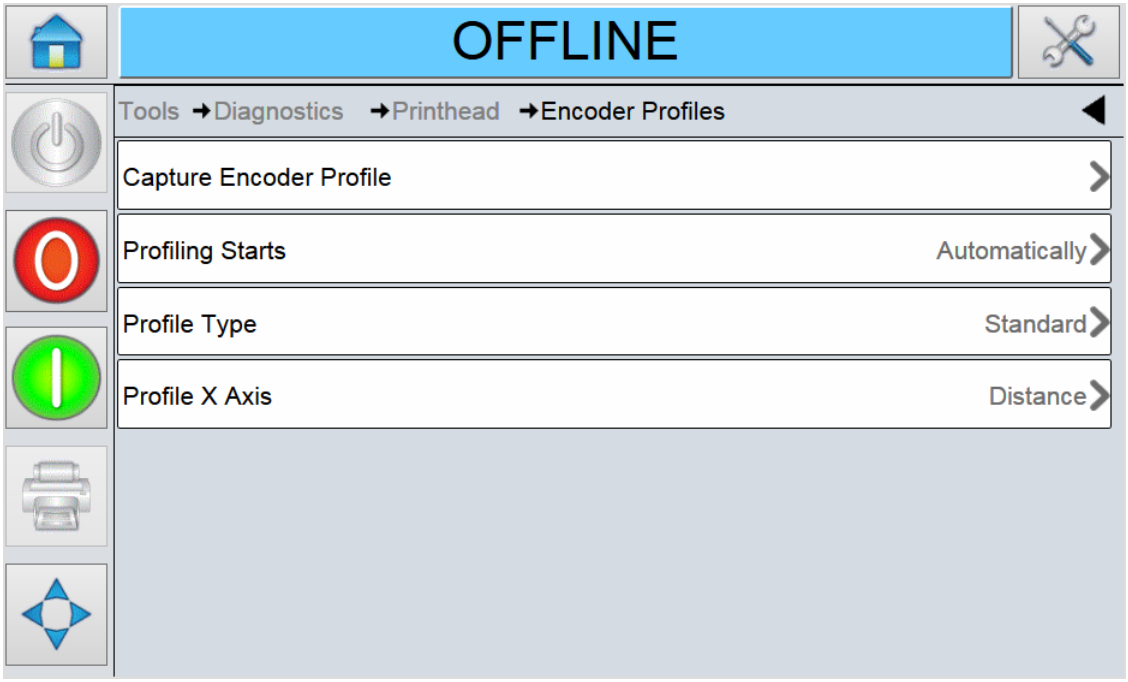


Figure 5-16: Encoder Profiles Screen

2. To set up the options for the profile you want to capture, configure the settings for the following options:

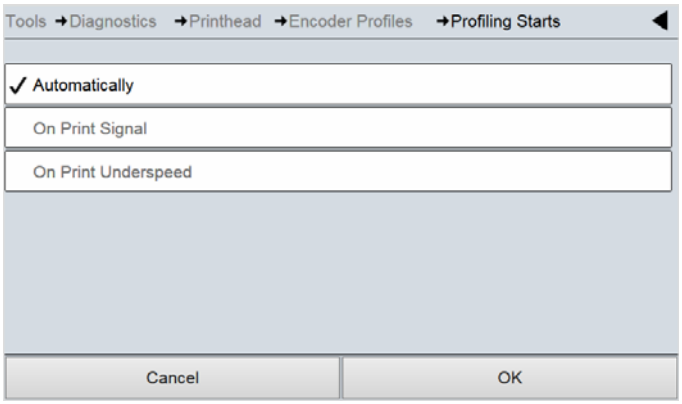
Option	Description
Profiling Starts 	The following options are available • Automatically: Captures the profile automatically after touching the Capture Encoder Profile button. • On Print Signal: Captures a profile only after a print signal has been received. • On Print Underspeed: Captures a profile only if the film speed drops below the minimum limit of the printers specification.

Table 5-16: Encoder Profile Screen Description

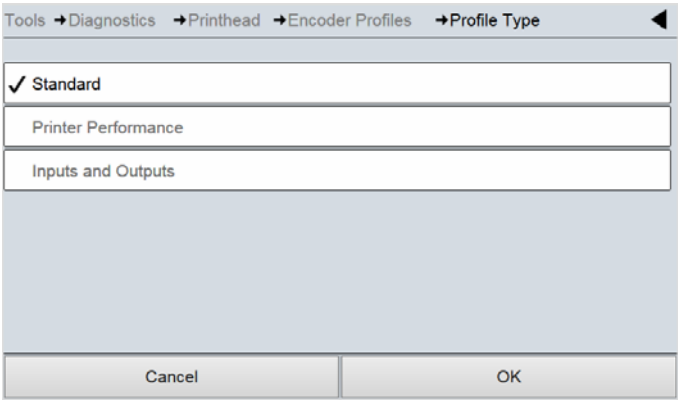
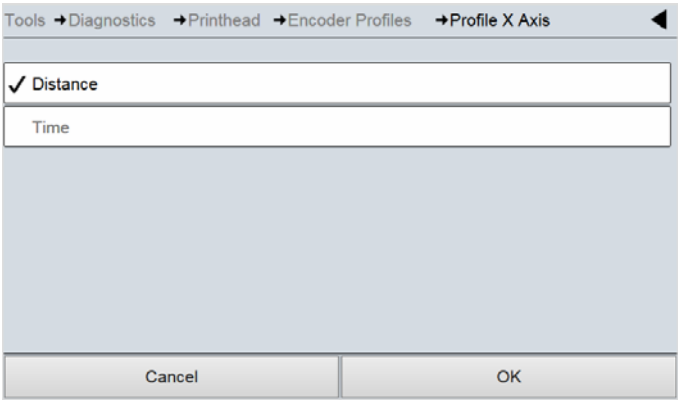
Option	Description
Profile Type 	The following profile types are available: • Standard • Printer Performance • Inputs and Outputs Each profile type presents the information in slightly different graphical forms. Select the one which best suits the requirement.
Profile X Axis 	Set the X axis of the chart to be either time or distance.

Table 5-16: Encoder Profile Screen Description (continued)

3. Once the options have been configured, start the capture process by touching the Capture Encoder Profile button. The Capture Encoder Profile screen appears (Figure 5-17).

   Note: *Encoder profiles are not captured during the ribbon calibration sequence.*

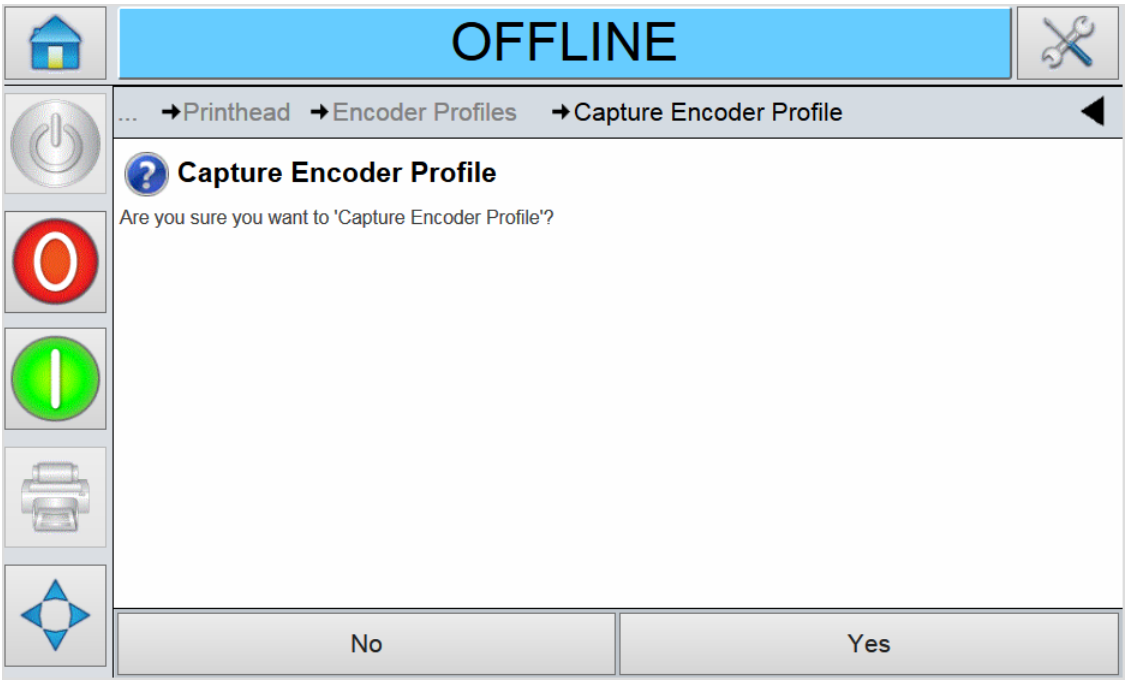


Figure 5-17: Capture Encoder Profiles Screen

4. Touch Yes and Capturing Encoder Profile screen appears (Figure 5-18).

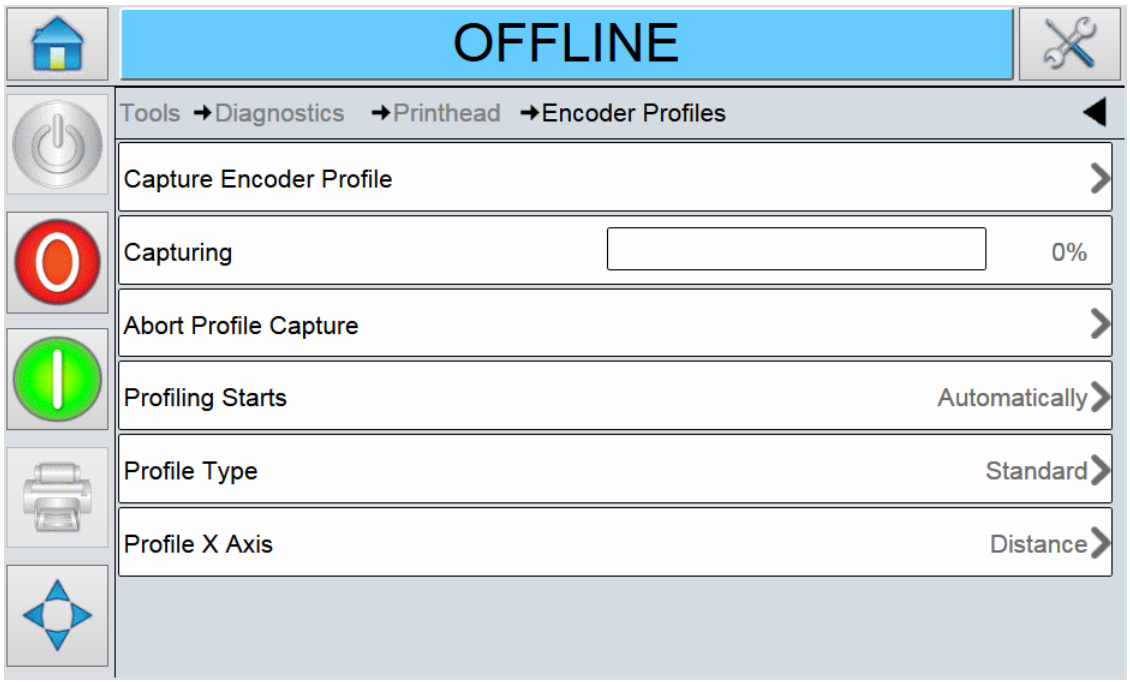


Figure 5-18: Capturing Encoder Profiles Screen

In addition, if CLARiTY Configuration Manager is communicating with the printer, the encoder profile may be uploaded to a PC for analysis.

To upload encoder profile to a PC, proceed as follows:

1. Click on the new coder icon and navigate through devices and select Capture Encoder Profile from the list as shown in Figure 5-19.

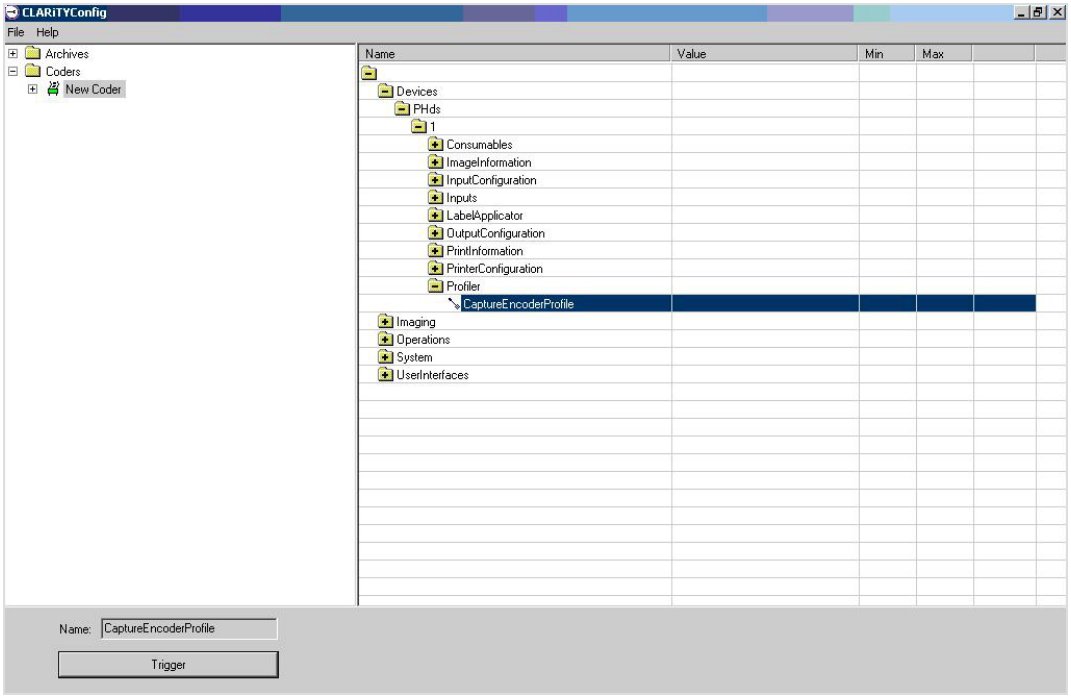


Figure 5-19: Encoder Profiles - CLARiTY Configuration Settings

2. Click on Trigger button, the profile is captured in a file which is in comma separated value format (csv).

3. To access this file, select Log Files folder from new coder as shown in Figure 5-20.

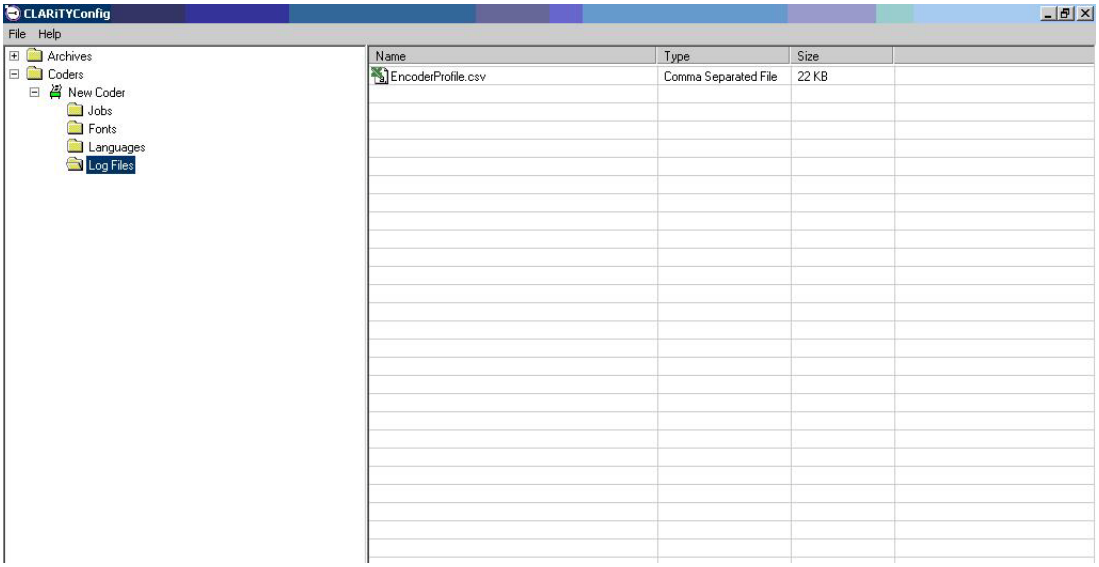


Figure 5-20: Encoder Profiles - Log Files

This file can be loaded into spreadsheet programs such as Microsoft Excel and using a Chart Wizard, a graph similar to that shown on the screen of CLARiTY can be viewed.

5.3.1.2 Using the Consumables Screen

Touch  on the Diagnostics screen to access the consumables parameters (Figure 5-22).

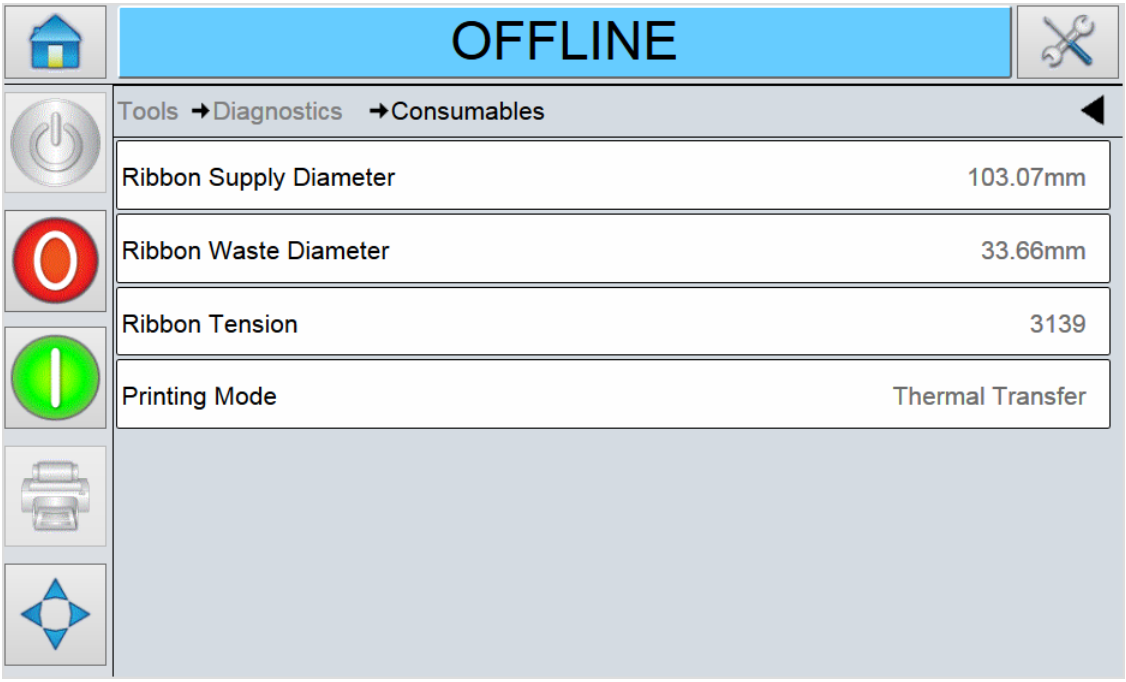


Figure 5-21: Consumables Diagnostics Screen

The Consumables Diagnostics screen displays the following parameters:

Option	Description
Ribbon Supply Diameter	The measured diameter of the supply ribbon. The measured diameter of the supply ribbon can be compared to the actual ribbon diameters after calibration to determine the accurate functioning of the calibration system.
Ribbon Waste Diameter	The measured diameter of the waste ribbon.The measured diameter can be compared to the actual ribbon diameters after calibration to determine the accurate functioning of the calibration system.
Ribbon Tension	The last ribbon tension reading.
Printing Mode	The printing mode. The following options are available: • Thermal Transfer (that uses a ribbon) • Direct (that uses the printer without a ribbon and printing directly on to thermal sensitive labels).

Table 5-17: Consumables Diagnostics Screen Description

5.3.1.3 Using the Control Screen

Touch  on the Diagnostics screen to access the control parameters (Figure 5-23).

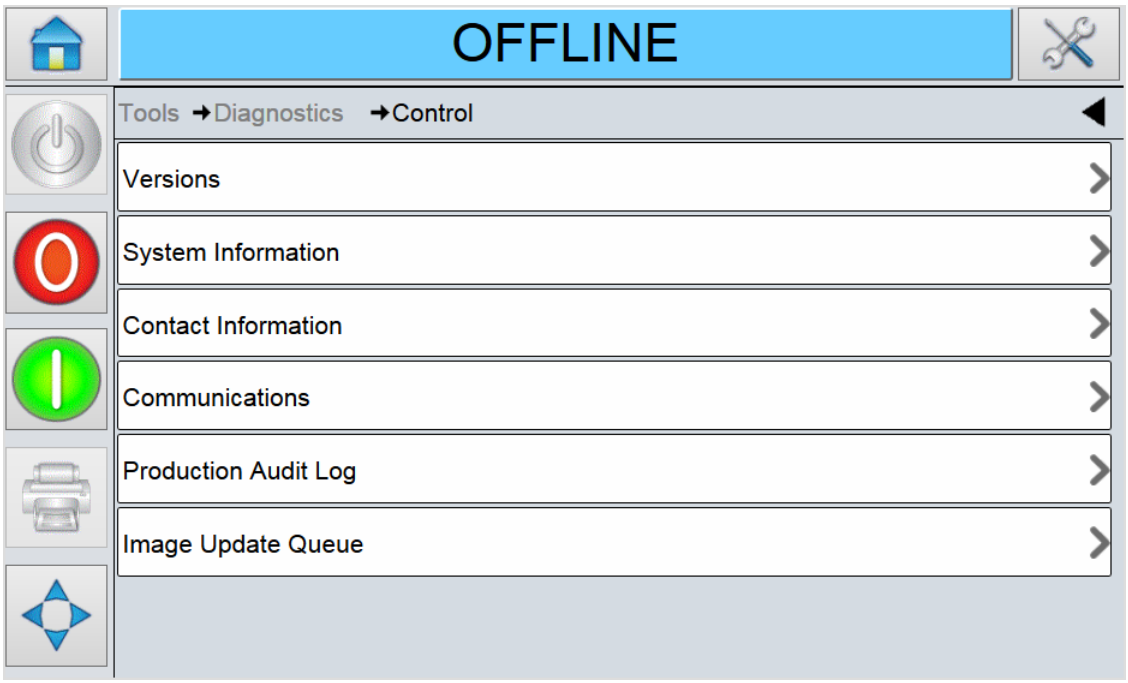


Figure 5-22: Control Diagnostics Screen

The Control Diagnostics screen provides access to the following parameters:

Option	Description
Versions	The software information for the system and each of the sub-components. Refer to "Using the Versions Screen" on page 5-29.
System Information	The serial number and revision number of Printed Circuit Board (PCB), CPU speed and equipment reference information. Refer to "Using the System Information Screen" on page 5-30.
Contact Information	The contact information of the customer service contact. Refer to "Using the Contact Information Screen" on page 5-31.
Communications	The printer serial and network ports. Refer to "Using the Communications Screen" on page 5-32.
Production Audit Log	The log of machine changes and user changes. Refer to "Using the Production Audit Log Screen" on page 5-36.
Image Update Queue	The list of all jobs in the printer queue. Refer to "Using the Image Update Queue Screen" on page 5-37.

Table 5-18: Control Diagnostics Screen Description

Using the Versions Screen

Touch Versions on the Control screen to view the parameters (Figure 5-24).

Note: *If there is any inconsistency among the software components that are installed in the printer, the Software Part Number displays the message 'Incompatible Software Versions'. If this is seen, a CLARiTY software update must be performed, otherwise the printer may perform in an unpredictable manner.*

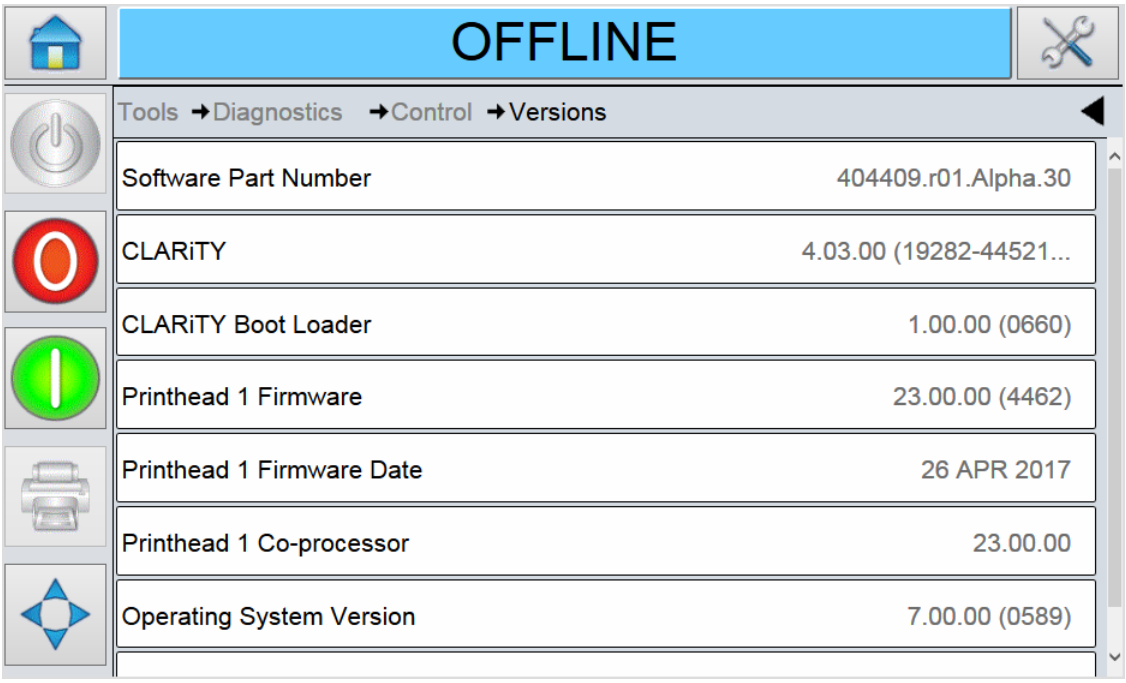


Figure 5-23: Versions Screen

The Versions screen displays the software information for the system and each of the sub-components.

Using the System Information Screen

Touch System Information on the Control screen to view the parameters (Figure 5-25).

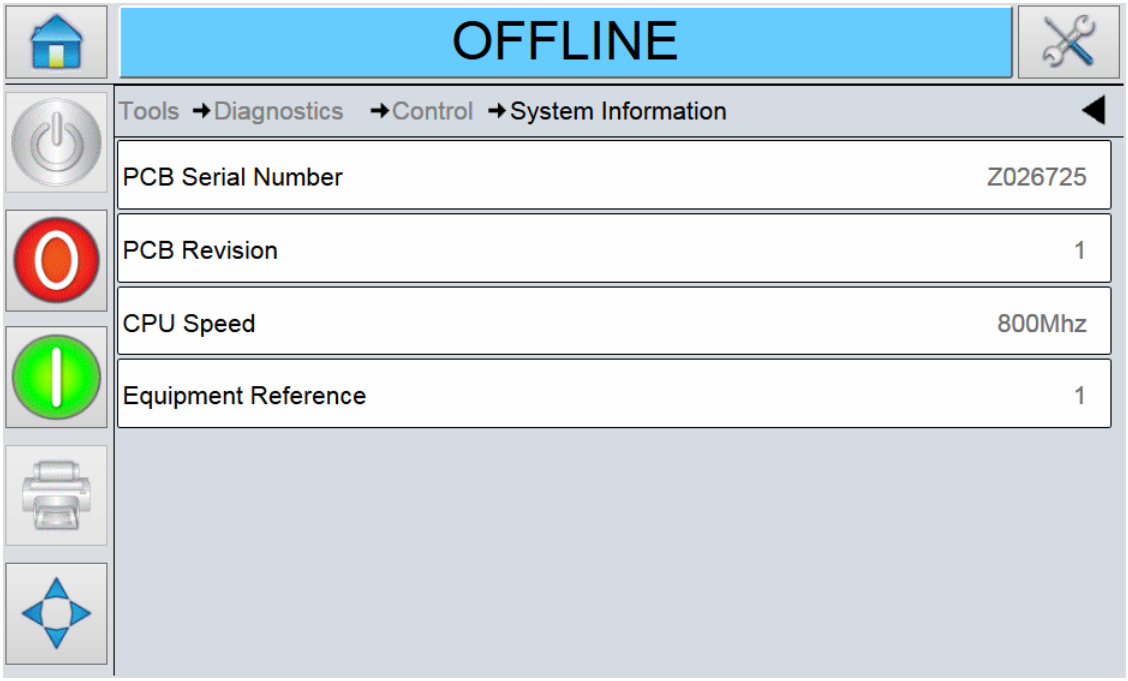


Figure 5-24: System Information Screen

The System Information displays the following parameters:

Option	Description
PCB Serial Number	The serial number of the PCB.
PCB Revision	The revision of the PCB.
CPU Speed	The speed of the CPU.
Equipment Reference	The equipment reference information.

Table 5-19: System Information Screen Description

Using the Contact Information Screen

Touch Contact Information on the Control screen to view the parameters (Figure 5-26).

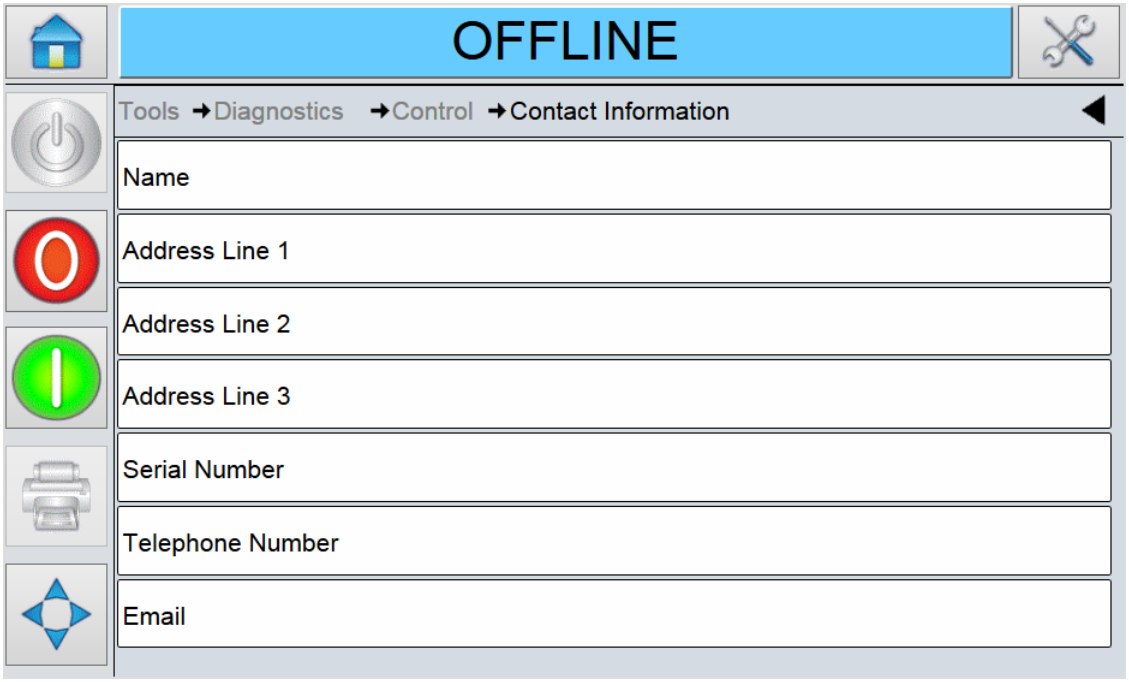


Figure 5-25: Contact Information Screen

The Contact Information displays the following parameters:

Option	Description
Name	The name of the customer service contact.
Address Line 1,2,3	The address of the customer service contact.
Serial Number	The printer serial number.
Telephone Number	The telephone of the customer service contact.
Email	The email of the customer service contact.

Table 5-20: Contact Information Screen Description

Using the Communications Screen

Touch Communications on the Control screen to access the parameters (Figure 5-27).

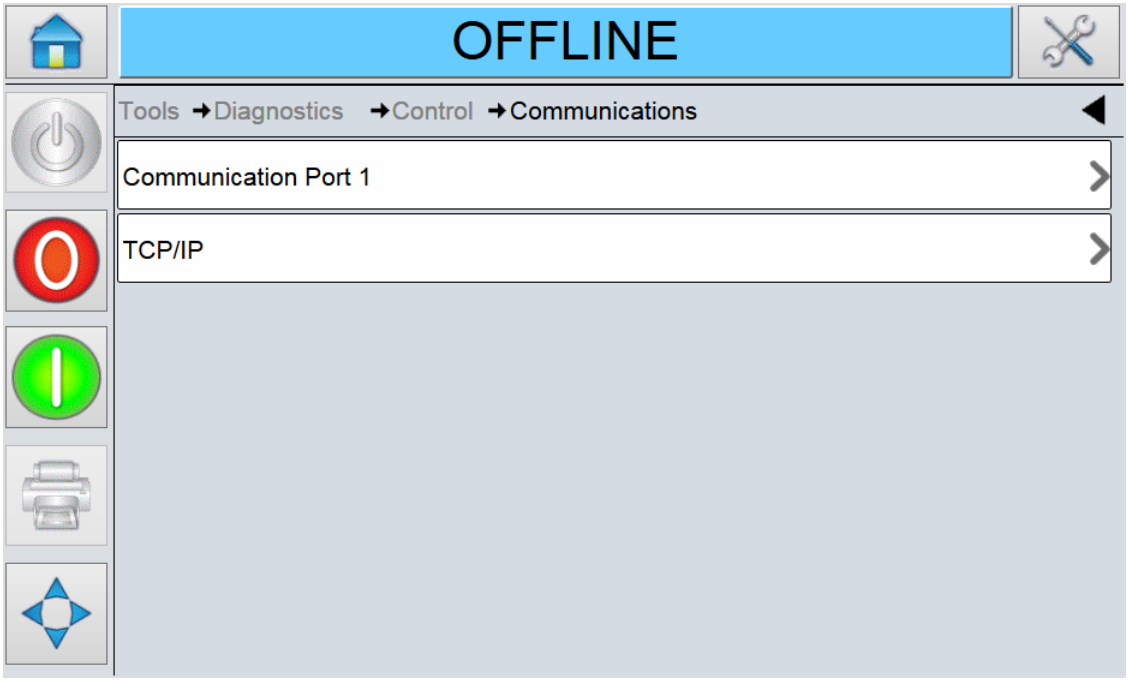


Figure 5-26: Communications Screen

The Communications screen displays the following parameters:

Option	Description
Communication Port 1	The status of serial port, including the baud rate and usage. Refer "Using the Communication Port 1 Screen" on page 5-33.
TCP/IP	The configuration and status of the printer's network port. Refer "Using the TCP/IP Screen" on page 5-34

Table 5-21: Communications Screen Description

Using the Communication Port 1 Screen

Touch Communication Port 1 on the Communications screen to access the parameters (Figure 5-28).

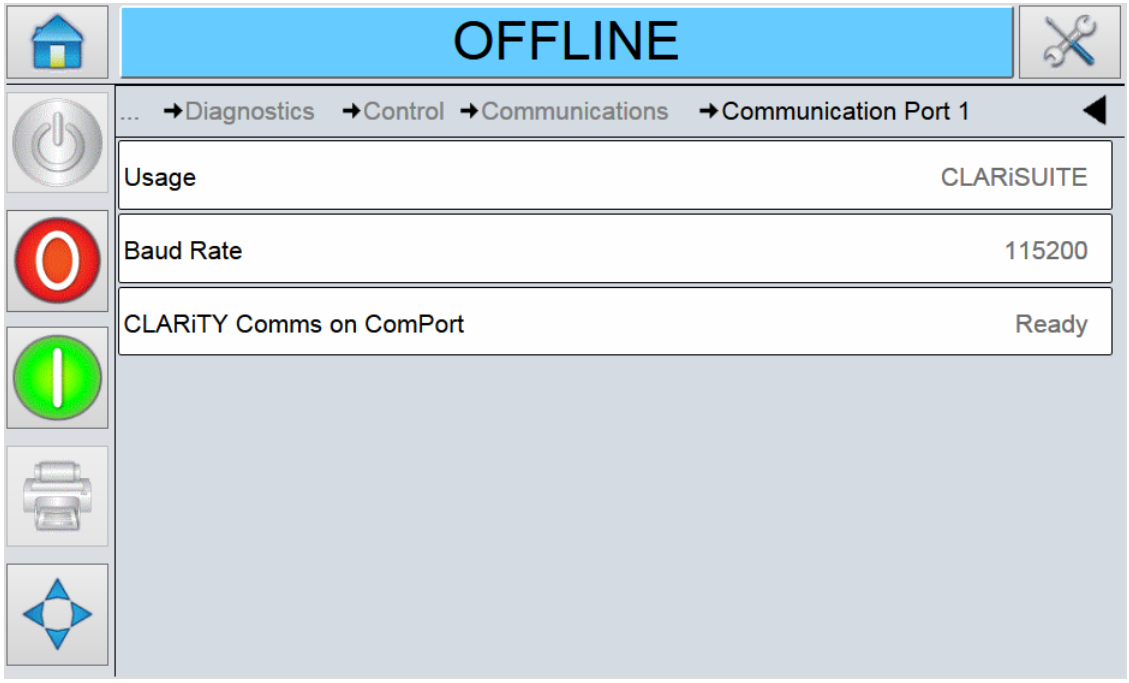


Figure 5-27: Communication Port 1 Screen

The Communication Port 1 screen displays the following parameters:

Option	Description
Usage	The software connected to the serial port.
Baud Rate	The Baud rate of the serial port
CLARiTY Comms on ComPort	The status of the serial port.

Table 5-22: Communications Port 1 Screen Description

Using the TCP/IP Screen

Touch TCP/IP on the Communications screen to access the parameters (Figure 5-29).

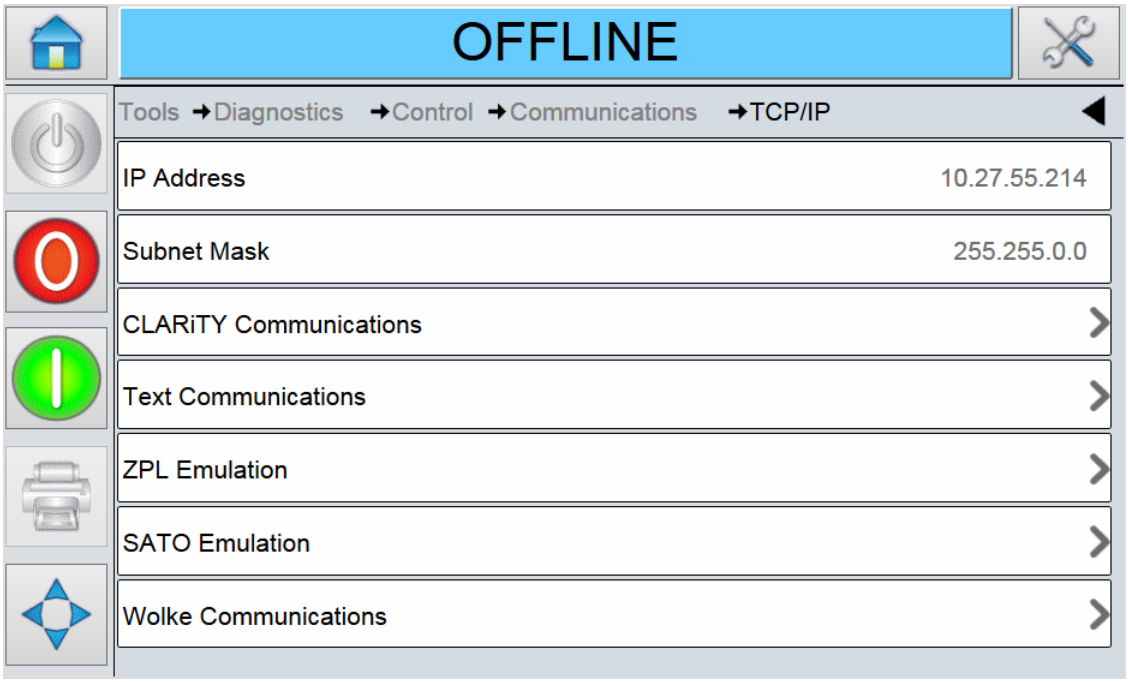


Figure 5-28: TCP/IP Screen

The TCP/IP screen displays the following parameters:

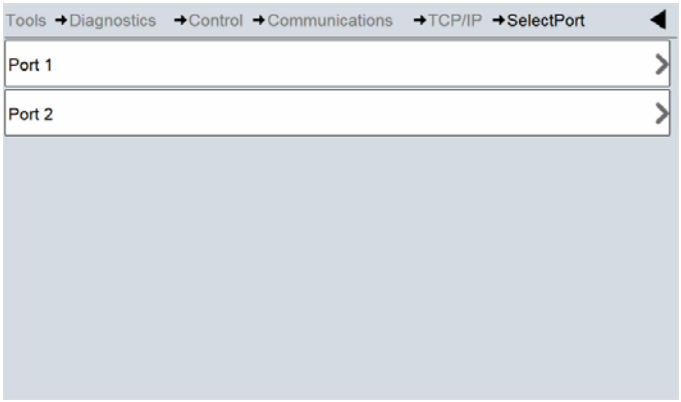
Option	Description
IP Address	The network IP address.
Subnet Mask	The network subnet mask address.
CLARiTY Communications 	The TCP/IP port numbers and CLARiTY network status.

Table 5-23: TCP/IP Screen Description

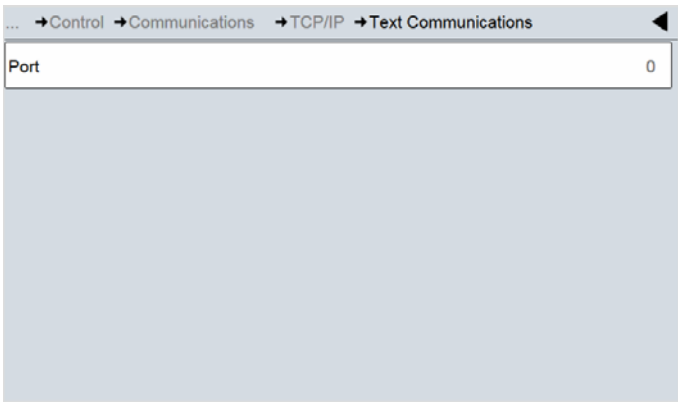
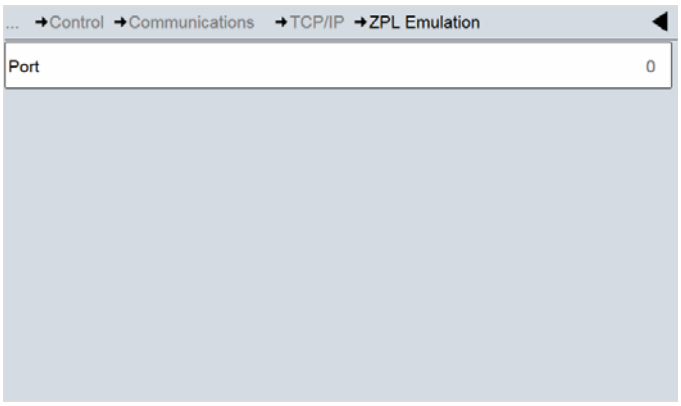
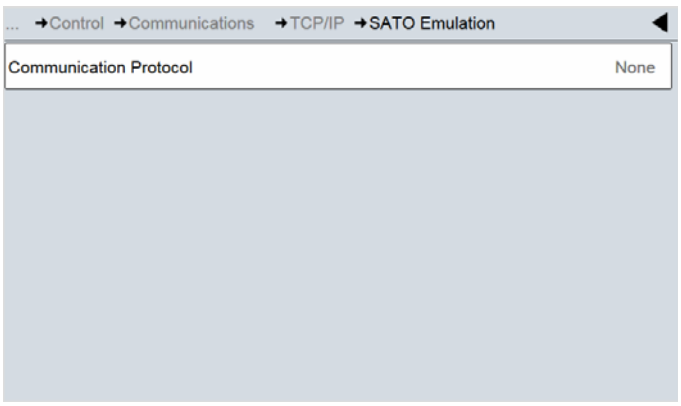
Option	Description
Text Communications 	The TCP/IP port number assigned for text communications.
ZPL Emulation 	The TCP/IP port number assigned for ZPL emulation commands.
SATO Emulation 	The communication protocol status, assigned TCP/IP port number, port response, network status for SATO emulation commands.

Table 5-23: TCP/IP Screen Description (continued)

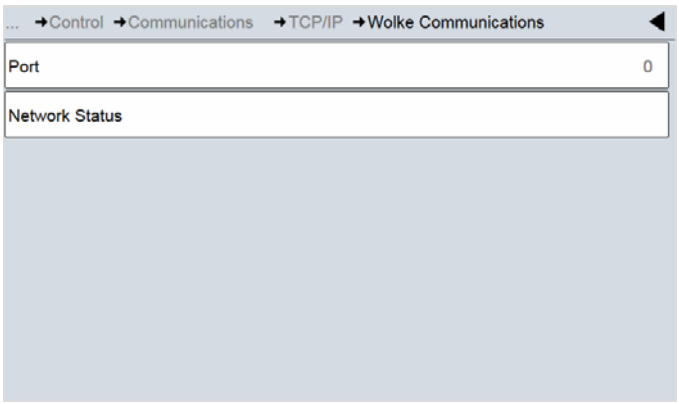
Option	Description
Wolke Communications 	The TCP/IP port number, and network status for Wolke communications.

Table 5-23: TCP/IP Screen Description (continued)

Using the Production Audit Log Screen

Touch Production Audit Log on the Control screen to view the parameters (Figure 5-30).

Note: *This option is available if logging is enabled on the printer using CLARiTY Configuration Manager.*

Note: *Logs can also be backed up to a USB memory stick if one is inserted into the printer*

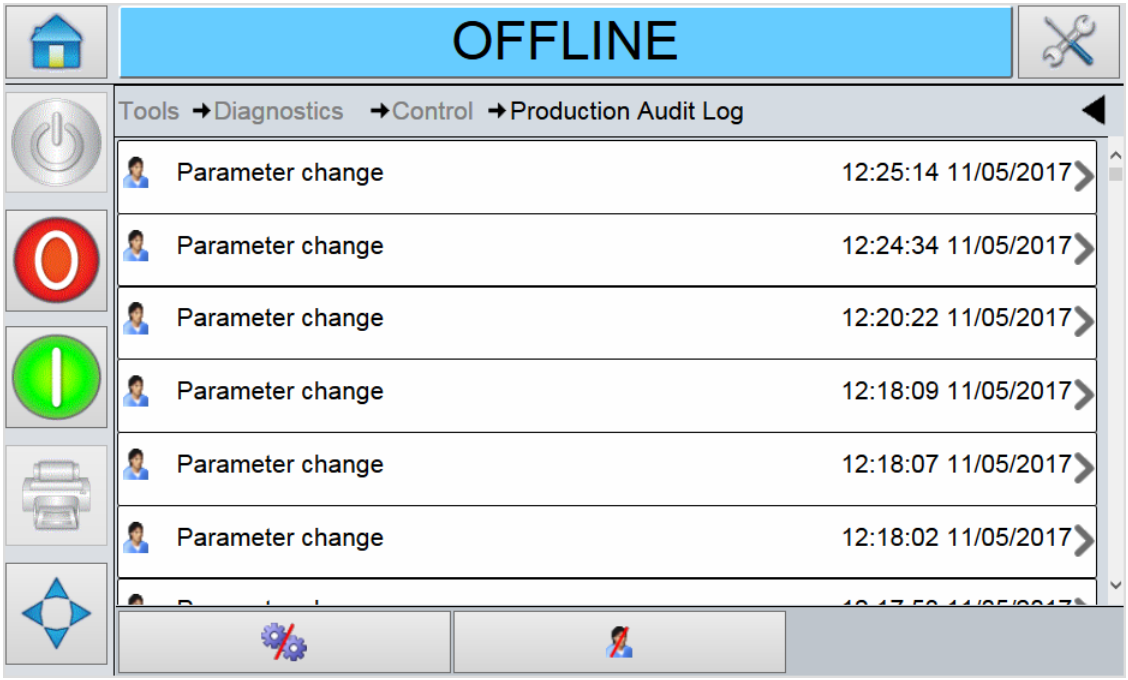


Figure 5-29: Production Audit Log Screen

Using the Image Update Queue Screen

Touch Image Update Queue on the Control screen to view the parameters (Figure 5-31).

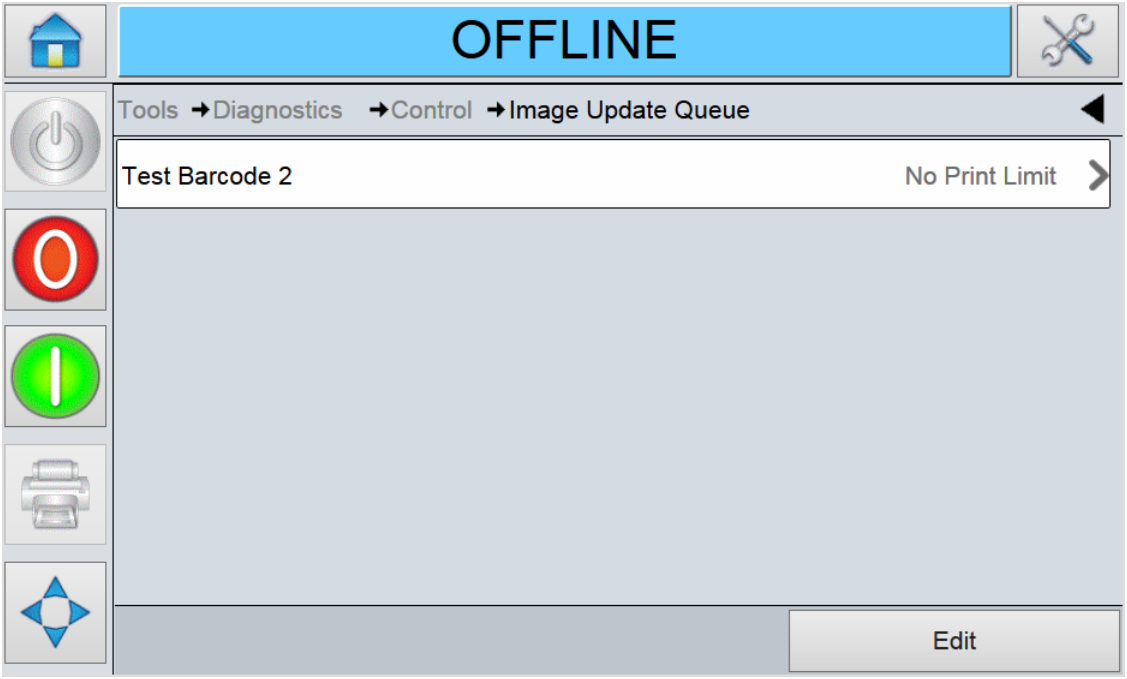


Figure 5-30: Image Update Queue Screen

5.3.1.4 Using the Options Screen

There are no options available at this time, it may be introduced in a future version of CLARiTY.

5.3.2 Using the Database Screen

Touch  on the Tools screen to access the Databases screen (Figure 5-32).

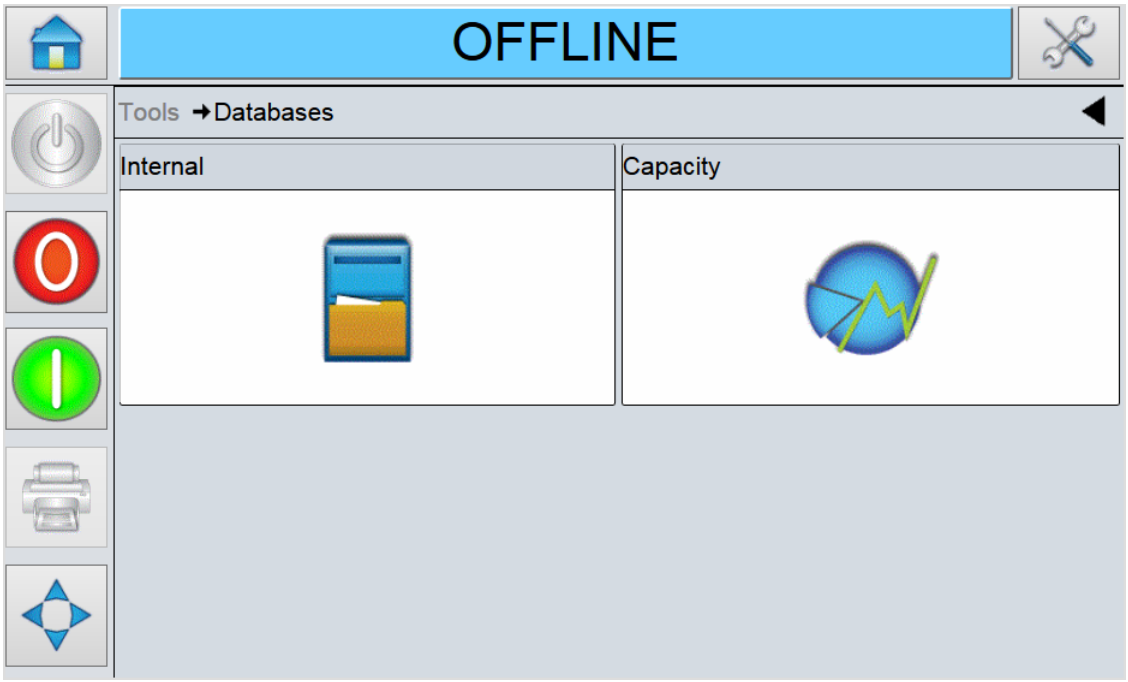


Figure 5-31: Databases Screen

The Databases screen displays the following parameters:

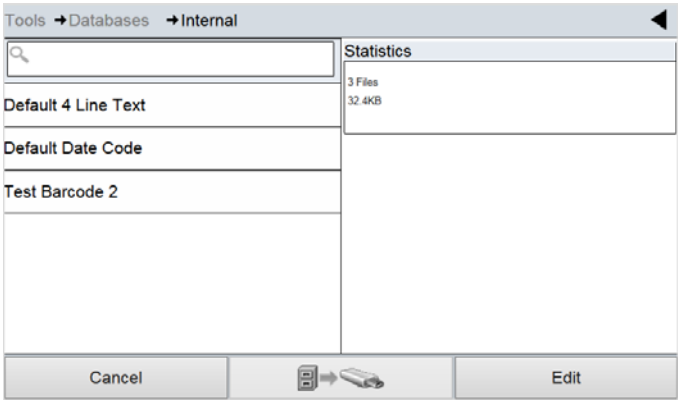
Option	Description
Internal 	The job list stored in the printer. Selected jobs can be transferred to the USB memory stick (if available). The Edit button provides the option to delete jobs from the internal database.

Table 5-24: Databases Screen Description

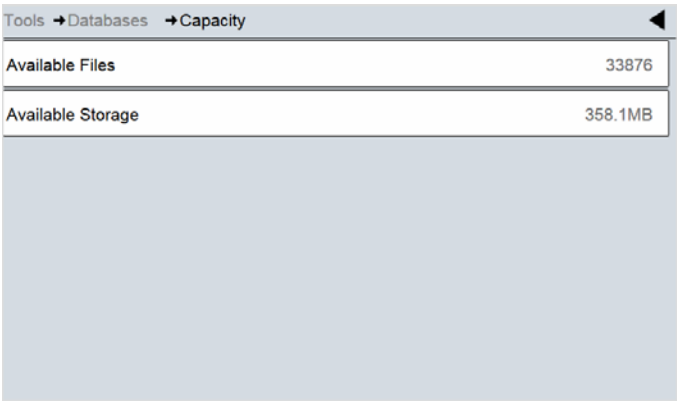
Option	Description
Capacity 	The estimated number of job files that could be stored on the printer, based on the size of existing job files, and the number of bytes of available job storage remaining.
External	The jobs stored on the inserted USB memory stick. Selected jobs can be transferred to the Internal database. Jobs can be deleted from the USB memory stick. ***Note:*** *Option only available when USB memory stick is inserted in printer.*

Table 5-24: Databases Screen Description (continued)

5.3.3 Using the Help Screen

Touch  on the Tools screen to access the Help screen (Figure 5-33).

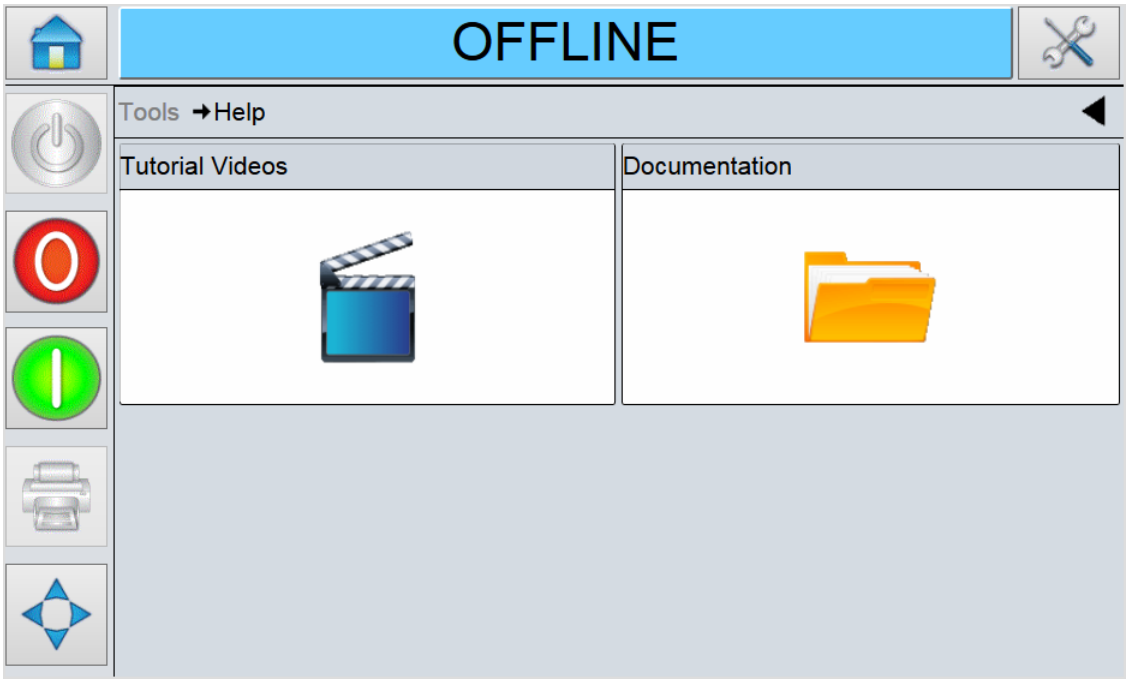


Figure 5-32: Help Screen

The Help screen displays the following parameters:

Option	Description
Tutorial Videos	The tutorial videos for specific tasks and basic troubleshooting. Refer "Using the Tutorial Videos Screen" on page 5-41.
Documentation	The documentation for specific tasks and basic troubleshooting

Table 5-25: Help Screen Description

5.3.3.1 Using the Tutorial Videos Screen

1. Touch Tutorial Videos on the Help screen to access the tutorial videos (Figure 5-34). Select the required video for specific task and basic troubleshooting.

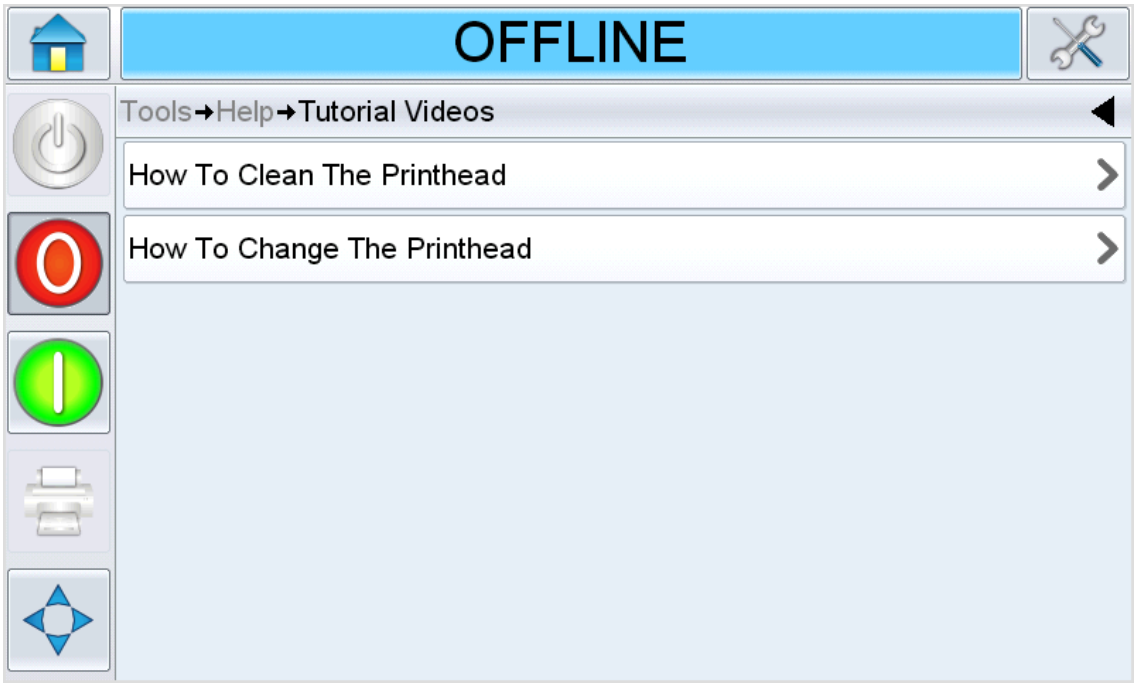


Figure 5-33: Tutorial Videos Screen

5.4 Password Protection

Password protection on the user interface allows different protected access levels for the various operational features. During installation, you can set the standard or advanced password selection using CLARiTY Config Manager. Refer to Videojet DataFlex 6530 Service Manual (Part Number: 463041).

Note: *If you do not want to have password protection, you can select None option.*

Password control can be set up as per the user requirement. When the user tries to access a function that is password protected the user interface prompts the user to enter the password.

When the correct password is entered, that function or menu becomes available. The password level remains active until logged out by the user or timed out.

- Standard Passwords: For example, if the Diagnostics function is password protected, when the user accesses the Diagnostics Menu by navigating to *Tools* > *Diagnostics*, CLARiTY prompts the user to enter the password.
- Advanced Passwords: The user is prompted to select the required username and enter the associated password.

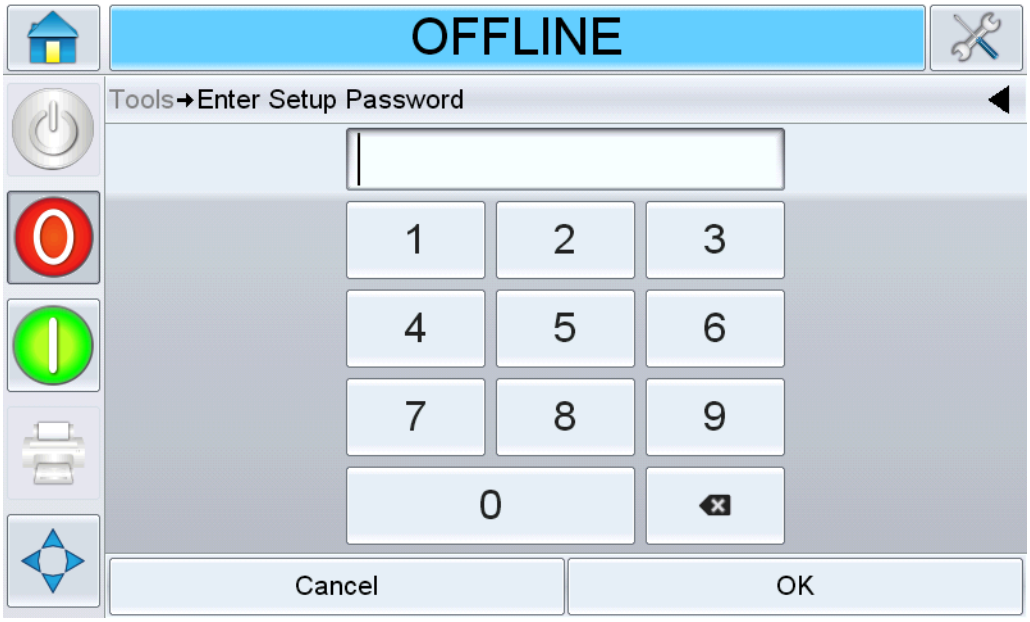


Figure 5-34: Password Screen

5.5 Master/Slave Printers

CLARiTY Master/Slave mode allows up to four printers to be connected together and to be used as a group (the group can have only one master). This section describes the use of Master/Slave mode at:

- Level 1-Group Job Select
- Level 2-Group Control

Further information on the CLARiTY Master/Slave mode is given in the Service Manual.

5.5.1 Group Job Select

Use Group Job Select to make sure that all the printers in the group are printing the same job. You can select jobs only on the master printer. The master printer tells the slaves which job to print.

When you use Group Job Select, the master printer shows additional information, as described below:

- It displays a fault message for any slave printer that does not respond to the master.
- The Printhead screen (navigate to *Tools* > *Diagnostics* > *Printhead*) contains a list of the printers in the group. Touch the name of a printer to display information about the chosen printer, as given in Table 5-26.

Printer	Description
Master	The standard set of buttons enable you to view diagnostic information about the printer and information about the Master/Slave level that is being used
Slave	The information about the connection between the slave and the master

Table 5-26: Master/Slave Diagnostics

- The Printhead screen (navigate to *Tools* > *Setup* > *Printhead*) allows to exclude one or more slaves from the group. This is useful if a slave develops a fault and you want the other printers to continue to print the job. When the fault has been cleared, the printer can be assigned to the group again.

5.5.2 Group Control

This level of operation (level 2) allows the user to control the slave printers from the master. As with Group Job Select, you can select jobs only on the master printer. The master printer tells the slaves which job to print. The slaves can be assigned and excluded from the group, as described in"Group Job Select" on page 5-43.

You can use the master printer to change setup parameters for any printer in the group.

The user interface on the master printer also displays the following additional information:

- The Consumables information for each printer in the group.
- The Batch Count and Total Count values for the group as a whole. Total Count values for each printer in the group are also available.
- The fault or warning messages for both the master and slave printers (the slaves will show only their own faults or warnings).
- The diagnostics information about each printer in the group.

Section 6 Job Editor

This chapter contains the following topics:

- Creating and Adding New Jobs
- Viewing the Current Job or Image
- Selecting a New Job for Print
- User Editable Fields
- Changing the Position or Appearance of the Print
- Deleting a Job from the Jobs Database

6.1 Creating and Adding New Jobs

Print jobs are created offline using the CLARiSOFT image design software that runs on a PC.

This is a What You See Is What You Get (WYSIWYG) package that enables you to design the look and feel of a print image and define the content of special fields such as complex sell by date calculations.

When the job has been designed using CLARiSOFT, it is saved with a unique job name onto the PC's disc. Jobs are transferred into the local database by connecting the PC to the printer using an RS232 or an Ethernet cable.

Alternatively, the printer has the ability to download a 'Job' database directly from a USB device. Jobs can be created in CLARiSOFT and saved onto a USB device, ready for downloading into the printer. This removes the need to take a laptop into the production area.

For information on how to create images, refer the online help supplied with CLARiSOFT. For more information on how to transfer images to the printer, refer the service manual.

Once the jobs are stored in the printer's local database, the PC may be removed. Jobs are then selected for printing as described in "Selecting a New Job for Print" on page 6-4.

The printer is supplied with two standard (default) job images:

- Default 4 Line Text
- Default Date Code

You can change the details in these two job images to suit your own needs. Refer "Viewing the Current Job or Image" on page 6-2 for instructions on how to change an image.

Variable information such as batch codes or sell by dates can be entered by using the on-screen keypad described in "User Editable Fields" on page 6-6.

6.2 Viewing the Current Job or Image

The name of the current job is displayed on the Home screen (Figure 6-1). Before starting the production line, ensure that the current job is the job that you want to print.

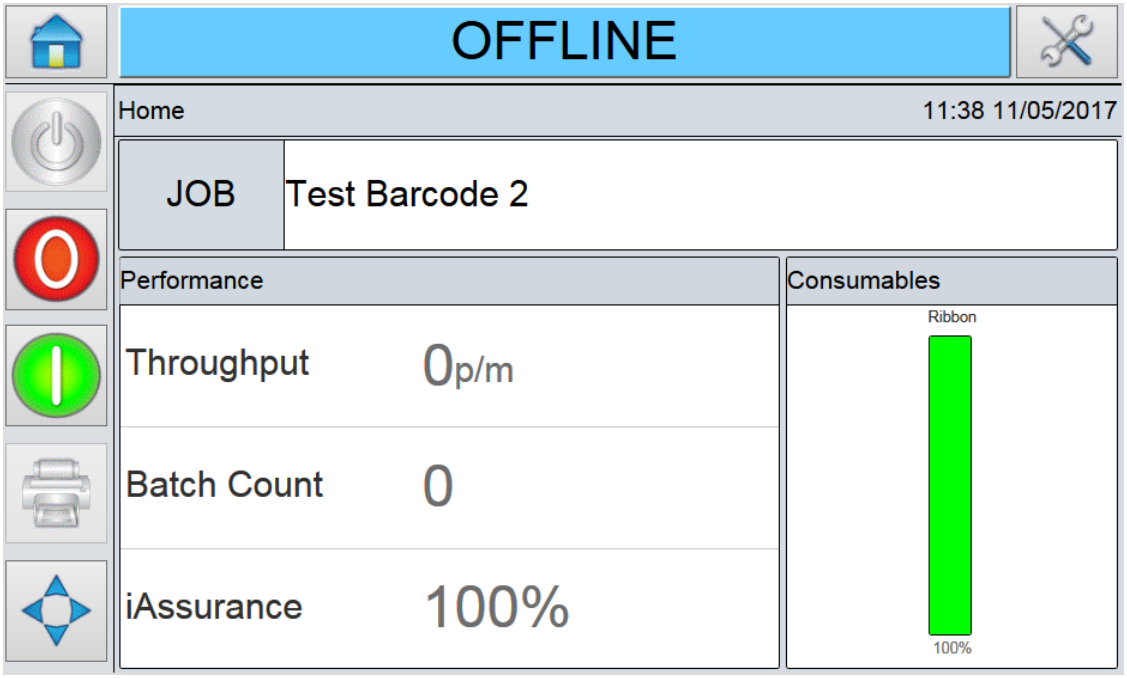


Figure 6-1: CLARiTY Home Screen

To view more details of the current job, proceed as follows:

1. Touch the current job area on the Home screen. This will display the details of the job, as shown in Figure 6-2.

Figure 6-2: Current Job Details Display

2. Touch  on the navigation bar, or  to return to the Home screen.

6.3 Selecting a New Job for Print

1. Touch JOB on the Home screen. A list of available jobs is displayed (Figure 6-1).

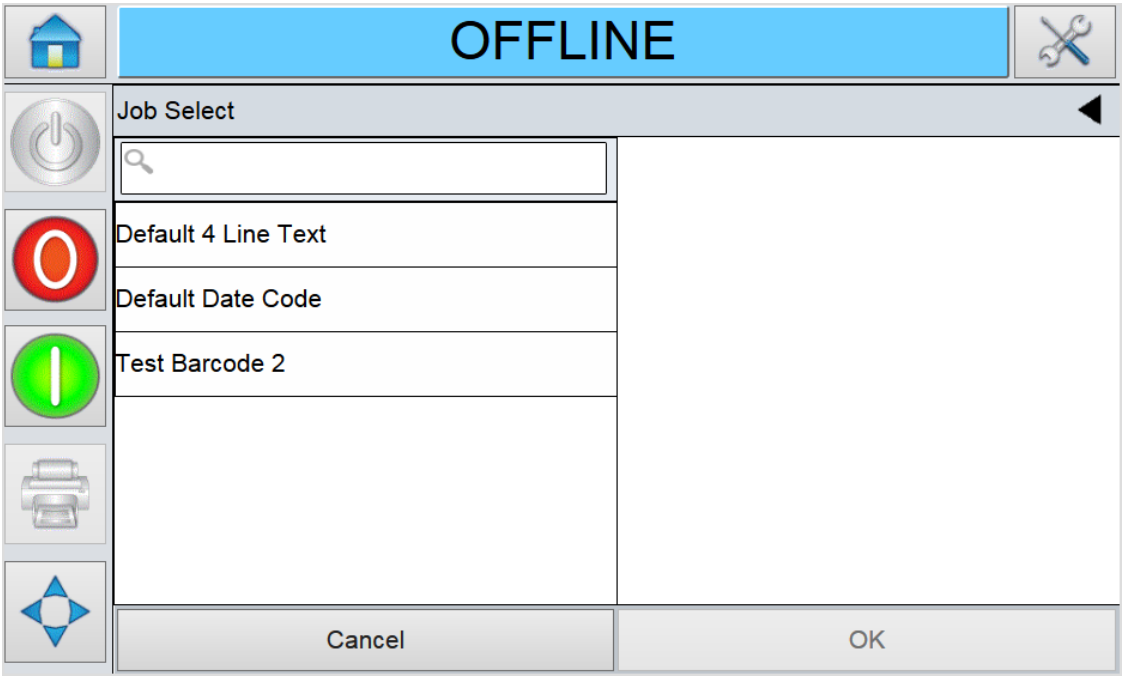


Figure 6-1: Job List

Note: *On selection of a job, a preview of the job is displayed on the right hand side of the screen.*

2. Touch the name of the required job in the list, as shown in Figure 6-3 and then touch OK .

   If the list is long, a "scroll bar" appears to the right of the list. Touch the up or down arrow buttons on the scroll bar to move through the list.

   Alternatively, you can type the name of the job using the keypad.

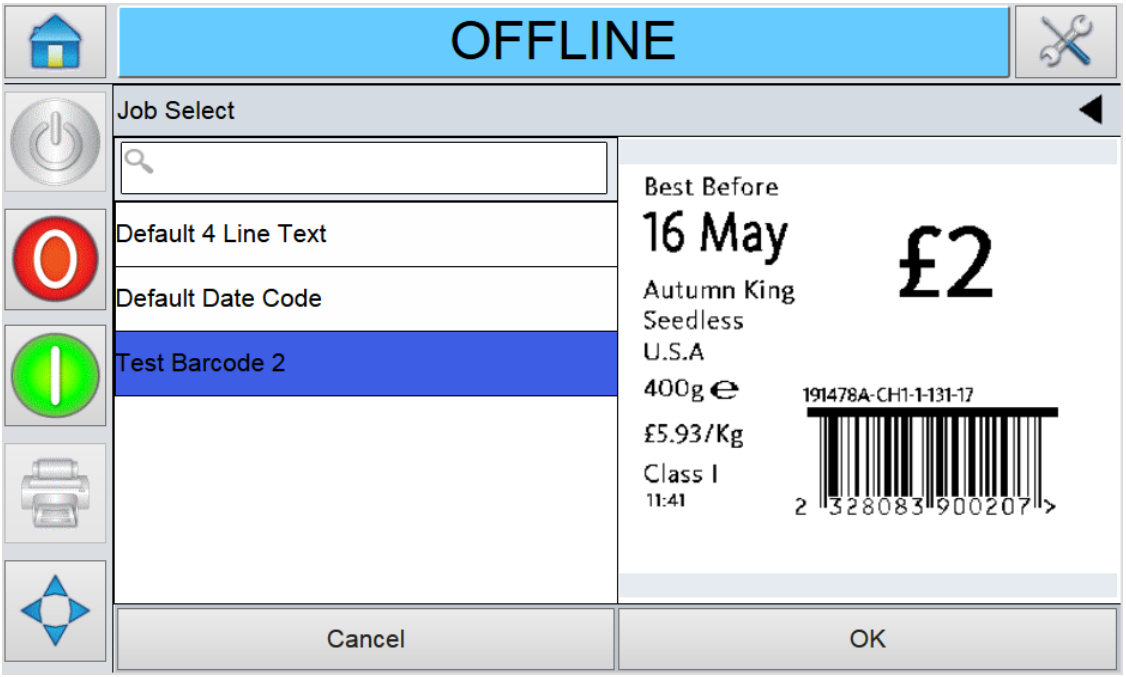


Figure 6-3: Job Selection

If the job requires user input information (i.e, job variables such as, batch codes or expiration date), UI will prompt for the same. Refer "Changing Variable Text and Date Information" on page 6-6

3. Touch OK to accept the information and view a preview of the image.

4. Touch OK in the preview page to confirm the details.

   The new job becomes the current job.

   Note: *User can select a new image or job while the printer is offline or while it is running. The new job replaces the current job only after user performs Step 4.*

5. Touch  to return to the Home screen.

6. To exit the job selection menu at any stage without making any changes, touch Cancel .

6.4 User Editable Fields

Some jobs contain job variables. Job variables are parts of the job image that can be changed. There are three types of job variables:

- Variable TEXT fields.
  For example, they are used for batch codes, product names, and other text labels.
- Variable DATE fields.
  For example, they are used for sell by dates.
- Variable COUNTER fields.
  Allows you to modify the starting value for a counter.

If a selected job includes variable information, CLARiTY prompts the user to enter or edit the required information.

Note: *Each variable has a check box. The check box is unchecked initially. As user enter the variable data and touch* OK *, CLARiTY automatically checks the box. User can proceed to the next step only when all the boxes are checked.*

6.4.1 Changing Variable Text and Date Information

To edit the user field, proceed as follows:

1. When a job is selected, the list of user editable fields in the job are displayed.
2. Touch the required field from the list to select it (the first one in the list is automatically selected). The default data for that field appears in the preview window (Figure 6-7).

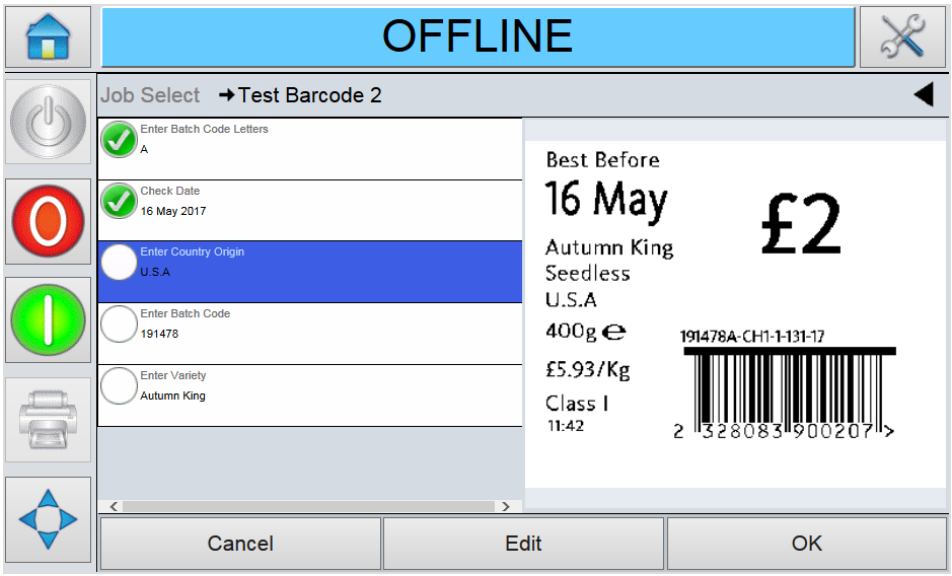


Figure 6-4: Default Date Code Window

3. If the information in the preview window is the information that you want to print, go to step 6. If you want to change the information, perform step 4.
4. Touch Edit to modify the information.

5. For text fields, do the following tasks:

   a. Use the keypad to enter the data.
   The CLARiTY Operating system supports a number of standard languages for use with 'User Entered' text information.

   b. Touch the 'Language Selection Key', to access the available language selections (see Figure 6-5).

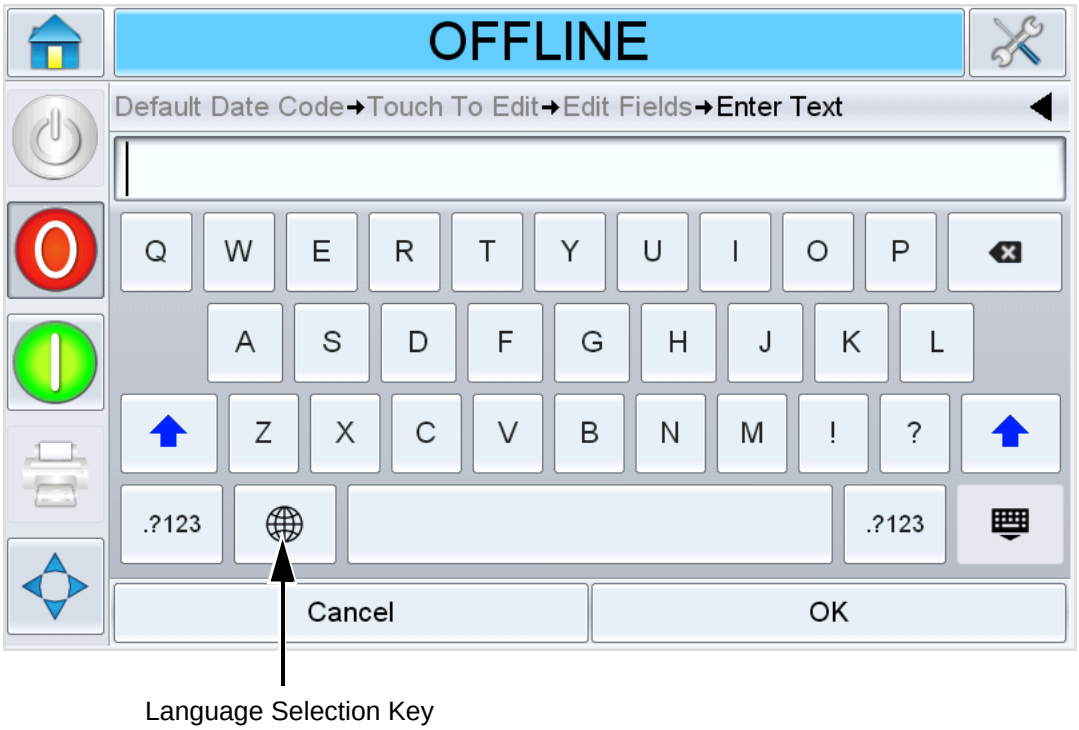


Figure 6-5: Default Keypad

   c. The keypad functions the same way as the keypad on a computer. Make necessary changes to the information.

For date fields, do the following tasks:

d. Touch the data window to display the Calendar page (see Figure 6-6).

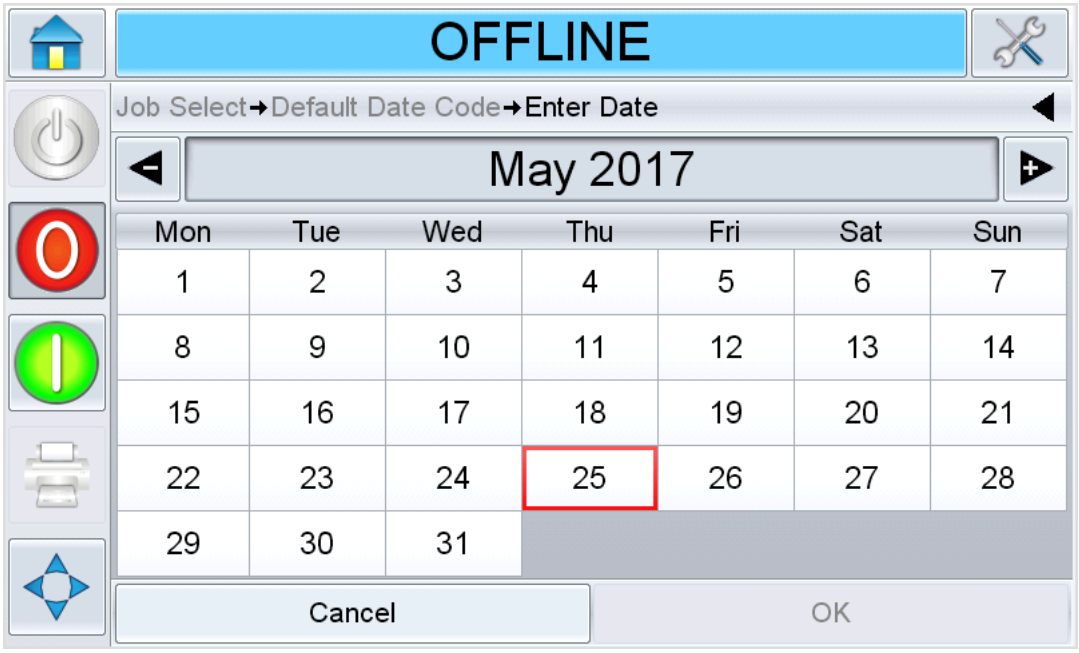


Figure 6-6: Calendar Page

e. Touch  or  to change the month and year.

f. Touch the date on the calendar to choose the date of the month, and touch OK.

Note: *Any dates that are not available for selection because of pre-defined rules that may have been set in CLARiSOFT are dimmed.*

6. Touch OK when you are satisfied that the information in the data window is correct. The user interface checks the check box. If there are only two user editable fields in the job, the user interface automatically displays the second field. If there are three or more fields, it displays the list of user editable fields, so that you can select one.

When you touch OK at the final field for this job (and all the check boxes are checked) the user interface shows you the preview of the image.

7. At the preview, perform one of the following:

- If you are satisfied with the image and you want to run the new job, touch OK. Products will be printed with the new image until you make further changes or select a new job.
- If you are not ready to print the job, you can leave this screen as it is. You can touch OK at a later stage, to select the job at that time.

- If you want to step back through the job select screens to make alterations to the variable data, touch Cancel .
- To cancel the job selection altogether, touch  .

6.4.2 Touch To Edit

To update and change user fields quickly and easily in a printing job, the user can use the 'Touch To Edit' feature.

Note: *Touch to Edit feature is turned off by default and needs to be activated in Clarity Configuration Manager.*

1. Select the current job details bar to display the job preview.

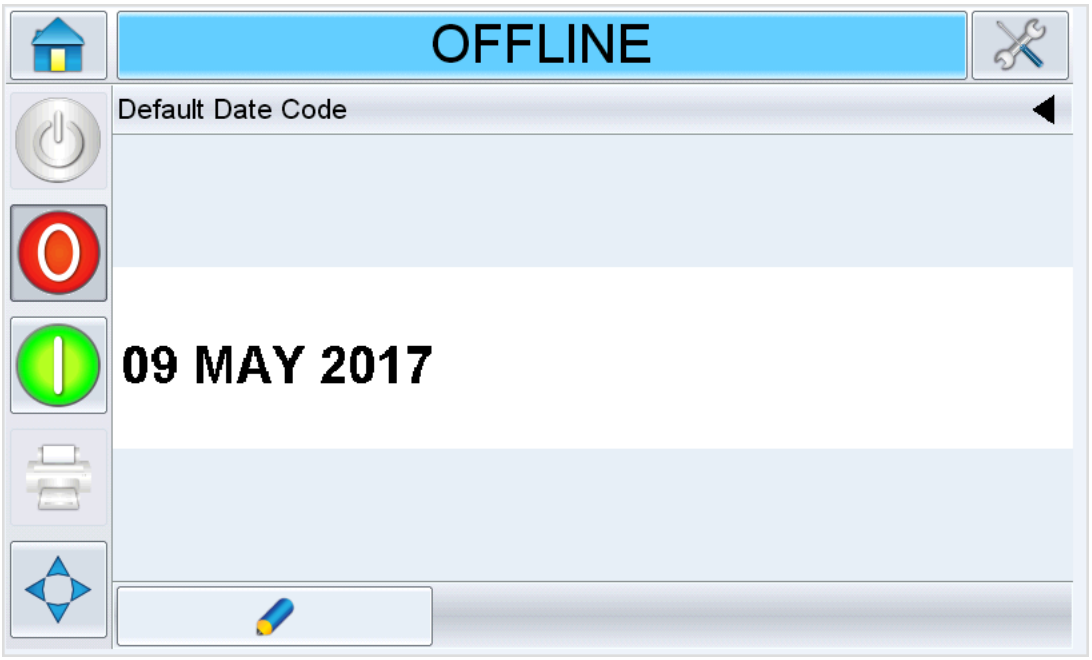


Figure 6-7: Default Date Code Window

2. Touch  to view the user editable fields.

3. The job opens, with the user editable fields highlighted.

   Note: *Only jobs that have user editable fields can be edited using Touch to Edit feature. These are set up in CLARiSOFT during message creation.*

4. To edit a user field, touch the user field.
5. The appropriate user field editor, based on the user field type, is displayed for the update.

   Update the user field as required and touch OK .

6. If there are additional user fields, repeat step 4 and step 5 for each field.
7. Touch OK after editing all the required user fields. The job will be updated in the printer and displayed in the current job details bar following the next print.

6.5 Changing the Position or Appearance of the Print

The following features can be changed and applied to modify the quality or position of the print image:

- Print position
- Print orientation
- Darkness of the print image
- Print delay (intermittent mode applications only)
- Print speed (intermittent mode applications only)
- Printhead print position (continuous mode applications only)
- Interleaved printing

The print settings can be viewed and changed through the printhead setup screen by navigating to *Tools* > *Setup* > *Printhead*.

Figure 6-8 shows the printhead setup screen for printers that have been installed to work on an intermittent motion packaging machine (prints only when the target material is stationary).

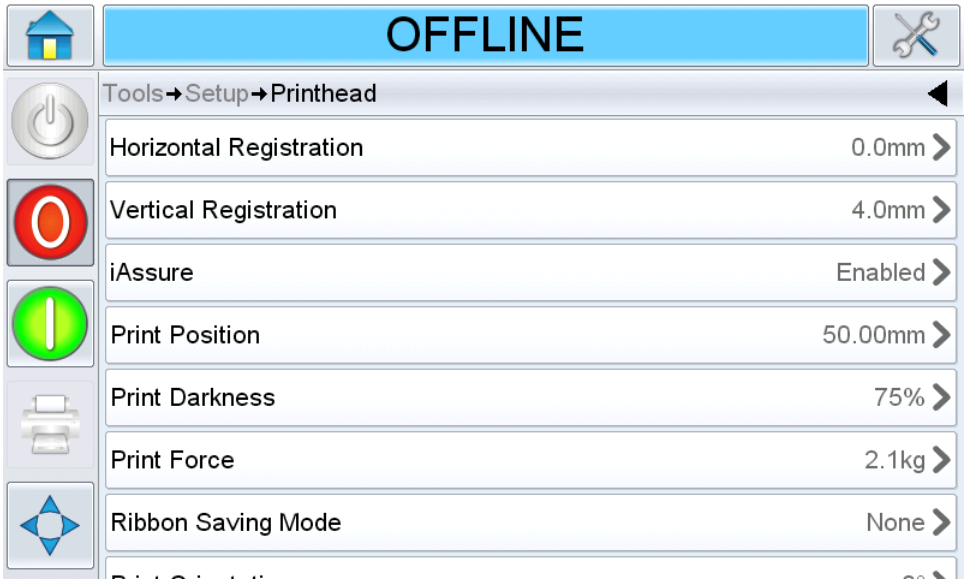


Figure 6-8: Printhead Setup Screen for Intermittent Motion Applications

Figure 6-9 shows the printhead setup screen for printers that have been installed to work on a continuous motion packaging machine (prints while the target material is moving).

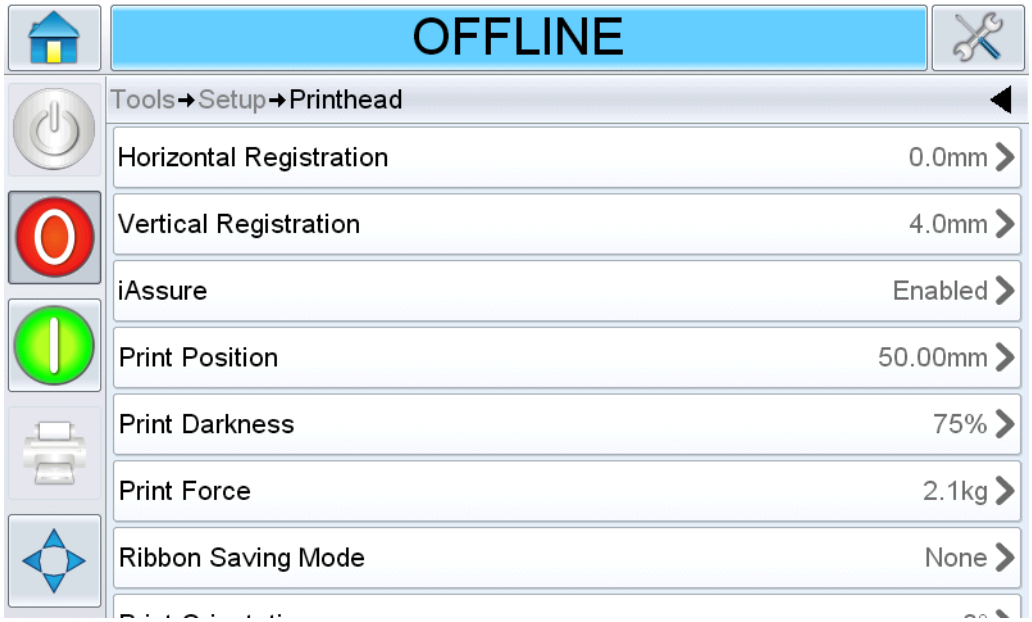


Figure 6-9: Printhead Setup Screen for Continuous Motion Applications

6.5.1 Changing the Print Position

If the image does not print in the correct position on the packaging film, you can change the position by changing the Horizontal or Vertical Registration. This allows you to move the image inside the printing area window of the machine and to make small adjustments to the print location without moving the printer on the bracket. If the image is moved outside the print window or the available ribbon width, part of the image will not be printed.

- The Vertical Registration determines the position across the width of the packaging film or printhead.
- The Horizontal Registration determines the position along the length of the packaging film.

To change the print position, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Printhead*. The Printhead screen is displayed (Figure 6-8 on page 6-10).
2. Touch either Horizontal Registration or Vertical Registration on the printhead setup screen to open the page for editing the required settings.

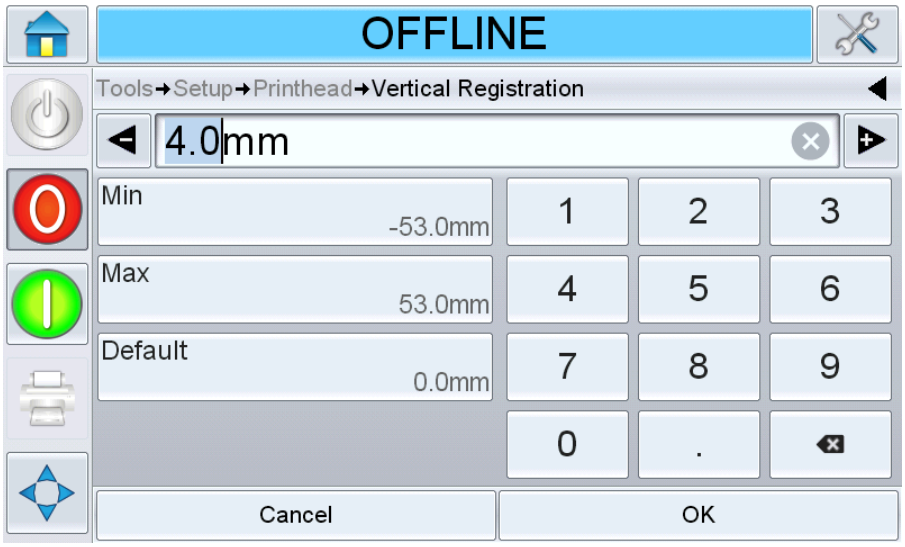


Figure 6-10: Vertical Registration

3. Touch  or  to make small adjustments in the parameter settings.

Alternatively, do one of the following to make changes in the settings:

- Type a new value using the keypad.
- Touch the Min, Max, or Default buttons to select the minimum, maximum, or default (standard) values.

4. Touch  to save the settings.
5. Touch  to return to the Home screen.

Note: *The same adjustments can be made via*  *on the Home screen.*

6.5.2 Changing the Print Darkness

If the print darkness is too low, it causes the printed image to appear faded.

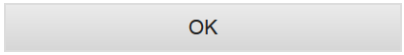
If the print darkness is set too high, the edges of the printed image appears blurred. This will also overdrive the printhead and shorten its lifetime.

Choose the lowest value of darkness that achieves a satisfactory quality print.

To set the print darkness, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Printhead*. The Printhead screen is displayed (Figure 6-8 on page 6-10).
2. Touch Print Darkness.
3. Touch  or  to make small adjustments in the parameter settings.

   Alternatively, do one of the following to make changes in the settings:

   - Type a new number using the keypad.
   - Touch on the Min, Max, or Default buttons to select the minimum, maximum, or default (standard) values.
4. Touch 

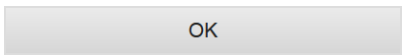
to save the settings.
5. Touch  to return to the Home screen.

6.5.3 Setting the Print Delay

Note: *This feature can be applied only on intermittent mode applications.*

The print delay is the time interval between the printer receiving a print signal and starting a print. It can be increased to ensure that the target material has come to a complete stop before the printing starts. If printing occurs while the target material is still moving, the resulting image may appear to be stretched or squashed. To enable maximum throughput, the print delay should be set to the shortest time that produces consistent prints.

To change the print delay, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Printhead*. The Printhead screen is displayed (Figure 6-8 on page 6-10).
2. Select the Print Delay parameter to open the print delay parameters setup.
3. Enter a new value using the keypad.
4. Touch 

to save the parameter settings.
5. Touch  to return to the Home screen.

6.5.4 Setting the Print Speed

Note: *This feature can be applied only on intermittent mode applications.*

The thermal transfer ribbon used by the printer adheres more readily to some types of packaging materials than others. The print speed can be reduced to improve the bonding and print quality, and increased to achieve greater throughput in terms of packs per minute, by reducing the overall print cycle time.

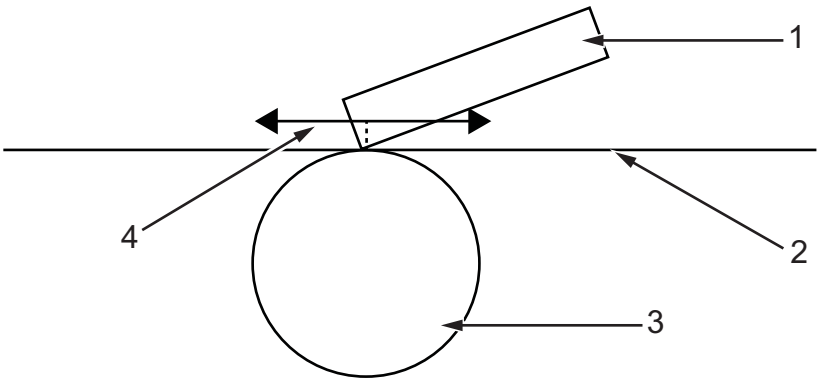
To change the print speed, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Printhead*. The Printhead screen is displayed (Figure 6-8 on page 6-10).
2. Touch Print Speed. The Print Speed screen is displayed.
3. Enter a new value using the keypad.
4. Touch  to return to the Home screen.

6.5.5 Setting the Printhead Position

Note: *This feature can be applied only on continuous mode applications.*

When printing continuously, the printhead will press the target material down against the roller, as shown in Figure 6-11.



1. Printhead
2. Target Material
3. Roller
4. Printhead Position Adjustment

Figure 6-11: Printhead Print Position

You can change the angle of the printhead against the target material, by changing the printhead position. This angle affects the print quality. If the angle is not suitable, the resulting print may appear faded.

To find a suitable printhead position, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Printhead*. The Printhead screen is displayed (Figure 6-8 on page 6-10).
2. Touch Print Position.
3. Enter a new value using the keypad.

   Note: *You should change the print position parameters in steps of 1 mm. The print position parameter is in 0.01 mm units, so a change of 100 units will move the printhead by 1 mm.*

Examine the sample prints from each position until you find the optimum print quality at the required print speed.

4. Touch  to return to the Home screen.

6.5.6 Setting Interleaved Printing

This feature allows you to select a lower 'draft' quality print mode which halves the ribbon consumption of the machine.

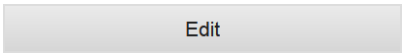
To set to interleaved printing mode, proceed as follows:

1. Navigate to *Tools* > *Setup* > *Printhead*. The Printhead screen is displayed (Figure 6-8 on page 6-10).
2. Touch Ribbon Saving Mode and select Interleaved Images. Select 

to set this feature.
3. Touch  to return to the Home screen.

6.6 Deleting a Job from the Jobs Database

To remove jobs that are no longer required, proceed as follows:

1. Navigate to *Tools* > *Database*.
2. Select the required database (internal or external) and touch 

.
3. The internal job list screen is displayed (Figure 6-12). This screen contains a list of all the available print jobs along with details of the space available for the storage of new jobs.
4. Touch the name of the job that you want to remove from the list of jobs. The job image appears in the preview window. Ensure that only the selected job(s) are to be deleted.

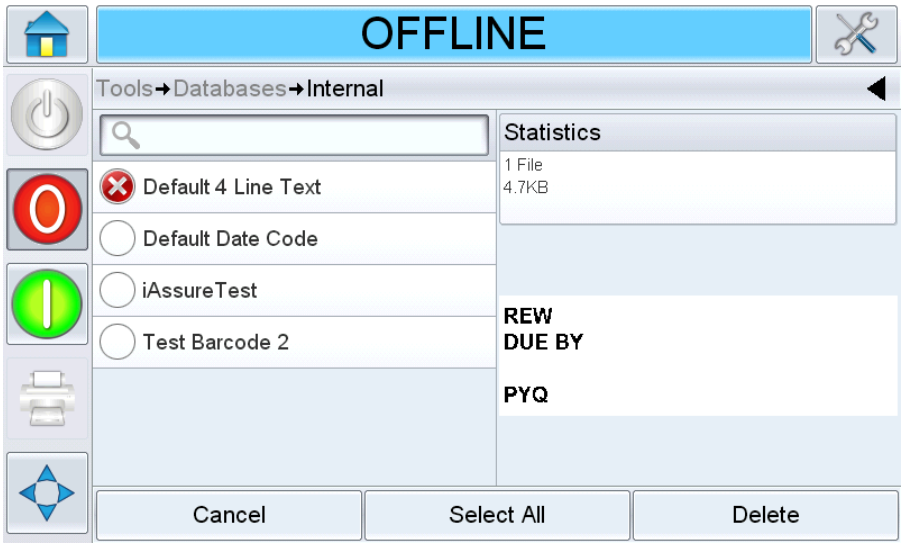


Figure 6-12: Database Delete Window

5. Touch 

to delete the job.

6. Confirm the job to be removed (Figure 6-13).

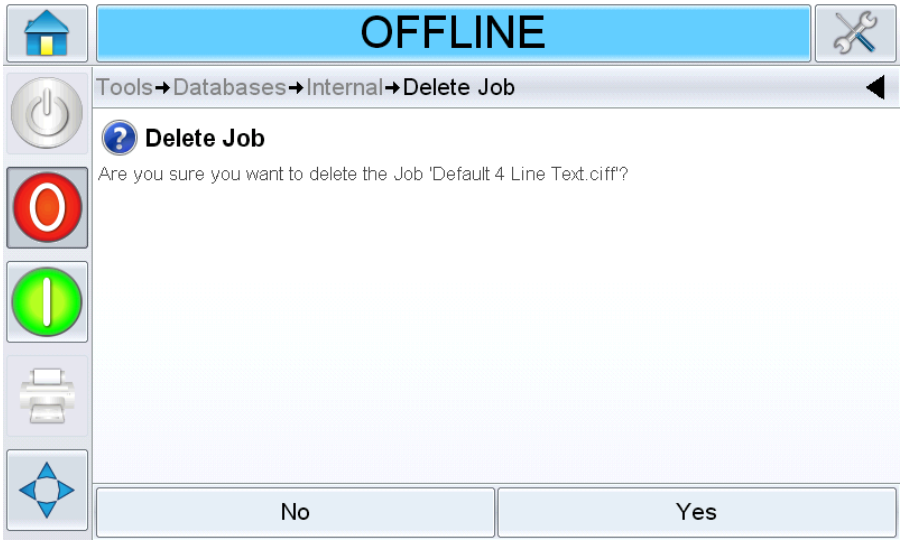


Figure 6-13: Confirmation Screen

7. Touch Yes to delete the job.
8. Repeat Step 3 to Step 7 to remove other jobs that are not required.
9. Touch  to return to the Home screen.

Section 7 Maintenance

Introduction

The maintenance of the printer includes the procedures that an operator or a service technician can perform. This section describes the maintenance tasks that the operators of the printer are allowed to perform. The other maintenance tasks that only the trained service technicians and personnel must perform are described in the service manual.

This section provides the information on maintenance task that the operator can perform

- General Maintenance

7.1 General Maintenance

Videojet DataFlex 6530 requires minimum ongoing maintenance.

⚠CAUTION

EQUIPMENT DAMAGE.
The use of an incompatible cleaning kit can seriously damage your printer. Such damage will not be covered by your printer warranty. Use only cleaning kits approved by your dealer.

Note: *Harsh or dirty environments may require shorter intervals between preventive maintenance routines.*

Do the following inspections and perform the measures as per the scheduled frequency.

Inspection Check Point	Frequency	Measures
CLARiTY Display		
Check if the touch screen is clean	As Required	Clean the touch screen by wiping with a dry soft cloth or cotton pad.
Check if the CLARiTY display surface is clean	As Required	Clean the CLARiTY display surface by wiping with a dry soft cloth or cotton pad.
Printhead		
Printhead	With every ribbon change (minimum frequency) **Note:** Harsh or dirty environments may require shorter intervals between cleaning	Clean with pre-soaked swabs or wipes that are available from the approved cleaning kits. For more information on cleaning the printhead, refer to "Cleaning the Printhead and Lightbox" on page 7-2.
Lightbox	With every ribbon change (minimum frequency) **Note:** Harsh or dirty environments may require shorter intervals between cleaning	Clean with pre-soaked swabs or wipes that are available from the approved cleaning kits. For more information on cleaning the printhead, refer to "Cleaning the Printhead and Lightbox" on page 7-2.

Table 7-1: General Maintenance Schedule

Inspection Check Point	Frequency	Measures
Peel Roller	As required (for example, when ink has transferred to the roller)	Clean with pre-soaked swabs or wipes that are available from the approved cleaning kits.
Cable		
Check all screw-fastened plug-and-socket connectors for tight fit.	As Required	If necessary, re-tighten them.

Table 7-1: General Maintenance Schedule (continued)

7.1.1 Cleaning the Printhead and Lightbox

To maintain maximum print quality and to ensure iAssure detection is working at its peak performance, you should clean the printhead and lightbox every time the ribbon is changed.

Note: *Harsh or dirty environments may require shorter intervals between cleaning.*

⚠CAUTION

EQUIPMENT DAMAGE.
The device must be switched off when the printheads are being installed, connected or disconnected.

⚠CAUTION

EQUIPMENT DAMAGE.
The printhead may become hot during normal operation. Observe necessary precautions before attempting to touch the printhead.

To clean the printhead and lightbox, proceed as follows:

1. Touch the  button on the CLARiTY display. The status bar changes to OFFLINE.
2. Turn the power switch on the CLARiTY controller to the O (Off) position.

   Note: *When the power is turned off, the printhead can be hinged away from the printer body to get better access to clean the print line.*

3. Remove the cassette and place it aside.

   Note: *Do not attempt to clean the printhead with the cassette in place.*

4. Clean the printhead pixel line from top to bottom (Figure 7-1), the white cassette rollers and the peel roller gently, using the cleaning swabs or wipes provided with the printer. The cleaning kit will contain Videojet approved pre-soaked cleaning wipes or swabs.

   Note: *Allow one minute for the excess fluid to evaporate. Failure to allow this interval can result in damage to the printhead by thermal shock.*

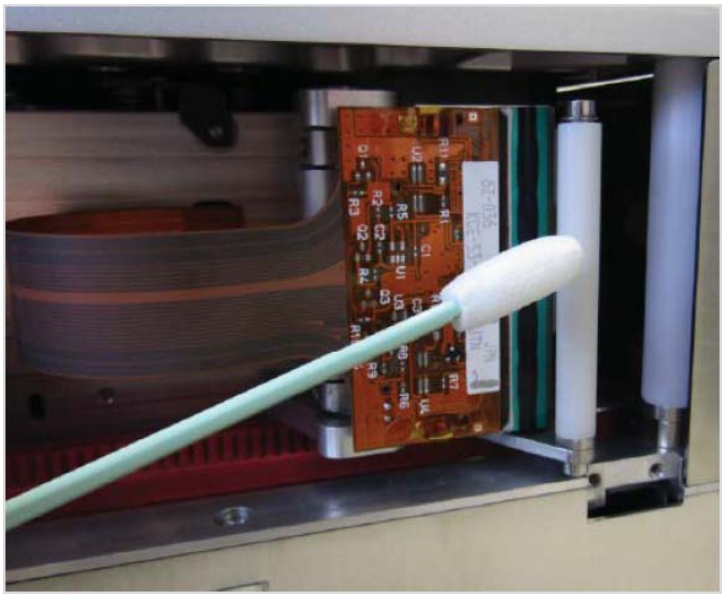


Figure 7-1: Printhead Cleaning

⚠CAUTION

EQUIPMENT DAMAGE.
Use Videojet approved cleaning kits to clean the printhead and lightbox. Do not use high pressure air or cotton.

⚠CAUTION

EQUIPMENT DAMAGE.
Do not touch the printhead with sharp objects.

⚠CAUTION

EQUIPMENT DAMAGE.
Do not apply excessive force to the printhead and lightbox while cleaning, as this can cause damage and can void the warranty.

5. Clean the lightbox cover (Figure 7-2) with back and forth movements using the cleaning swabs or wipes provided with the printer. The cleaning kit will contain Videojet approved pre-soaked cleaning wipes or swabs.

   Note: *Allow one minute for the excess fluid to evaporate. Failure to allow this interval can result in damage to the lightbox by thermal shock.*

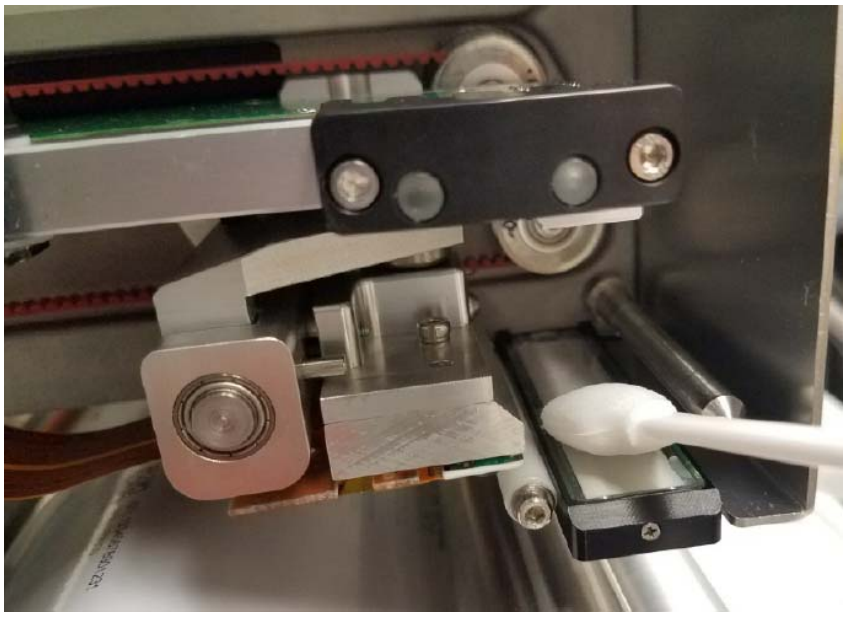


Figure 7-2: Lightbox Cover Cleaning

6. Replace the cassette and lock it in place.
7. Turn the power switch on the CLARiTY controller to the I (On) position.

The printhead cleaning is complete.

Section 8 Troubleshooting

Introduction

This section contains the troubleshooting, fault diagnosis information for the users. This section contains the following information:

- Printer Faults
- Printing Faults
- CLARiTY Display Faults
- CLARiTY Error Messages

8.1 Printer Faults

Error Message	Possible Causes	Remedies
Cassette Open	Cassette not fully seated	Push the cassette until it "clicks" into place.
	Cassette latch out of adjustment	Adjust the cassette latch.
	Cassette sensor magnet missing from cassette baseplate	Replace the cassette magnet.
	Faulty cassette sensor	Replace printhead PCB.
Ribbon Break	Ribbon installed incorrectly	Reinstall the ribbon as per the ribbon loading diagram on cassette.
	Broken or defective ribbon	Reinstall existing or new roll of ribbon.
	Excessive Print Darkness and/or Print Force settings	Navigate to *Tools* > *Setup* > *Printhead* and set the Print Darkness and Print Force settings to default values. Observe the results and adjust accordingly. It is recommended to use the lowest possible settings while still achieving acceptable print quality.
	Poor alignment of printer to print platen or peel roller	Ensure proper alignment and printer is square to print platen or peel roller. Use shims between printer and mounting plate if needed.
	Excess slack in ribbon when cassette is loaded	Rotate mandrels to remove excess slack in the ribbon.
	Ribbon is under the peel roller when cassette is inserted	Ensure ribbon is between printhead and peel roller when cassette is inserted.

Table 8-1: Printer Faults

Error Message	Possible Causes	Remedies
	Damaged cassette	Inspect cassette for damaged components such as baseplate, cassette rollers, mandrel, mandrel pins, and friction cones. Ensure no components are bent or misaligned. Replace components as necessary.
	Missing components on cassette	Along with the main cassette components, ensure friction cones and leaf springs are present. Replace components as necessary.
	End of reel	Replace the ribbon reel.
	Incorrect ribbon settings	Navigate to *Tools* > *Setup* > *Consumables* and ensure correct ribbon settings for the ribbon being used.
	Ribbon is 'stuck' to the substrate and is being pulled/tugged	Ensure substrate is not 'tacky'. Try lowering Print Darkness and/or Print Force settings if needed. Intermittent Mode Only: Try increasing Print Speed.
	Intermittent Mode Only: Substrate is moving while printer is printing	Navigate to *Tools* > *Setup* > *Printhead*. If substrate is not settled before printer begins to print, adjust Print Delay. If substrate begins to advance before printer finishes printing, increase Print Speed.
Ribbon Error	Ribbon reel eccentricity is excessive	Replace the ribbon.
	Ribbon tags on the take up core which affects the ribbon calibration system	Remove the tags and wind the take-up reel neatly.
Low Ribbon	Ribbon will need to be replaced soon	Replace the ribbon.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
Ribbon Pull Through	Intermittent Mode Only: Substrate is moving while printer is printing	Navigate to *Tools* > *Setup* > *Printhead.* If substrate is not settled before printer begins to print, adjust Print Delay. If substrate begins to advance before printer finishes printing, increase Print Speed.
	Ribbon is 'stuck' to the substrate and is being pulled/tugged	Ensure substrate is not 'tacky'. Try lowering Print Darkness and/or Print Force settings if needed. Intermittent Mode Only: Try increasing Print Speed.
	Ribbon goes slack due to damaged cassette	Inspect cassette for damaged components such as baseplate, cassette rollers, mandrel, mandrel pins, and friction cones. Ensure no components are bent or misaligned. Replace components as necessary.
Ribbon is creasing / wrinkling	Poor alignment of printer to print platen or peel roller	Ensure proper alignment and printer is square to print platen or peel roller. Use shims between printer and mounting plate if needed.
	Dirty or damaged peel roller	Clean and replace if necessary.
	Bent/damaged peel roller shaft and/or support	Check and replace if necessary.
	Dirty or damaged cassette rollers	Clean and replace if necessary.
	Damaged cassette	Inspect cassette for damaged components such as baseplate, cassette rollers, mandrel, mandrel pins, and friction cones. Ensure no components are bent or misaligned.
	Excessive “Print Darkness” and/or “Print Force Settings”	Navigate to *Tools* > *Setup* > *Printhead* and set the Print Darkness and Print Force settings to default values. Check for ribbon crease/wrinkle and adjust accordingly. It is recommended to use the lowest possible settings while still achieving acceptable print quality.
	Incorrect ribbon settings	Navigate to *Tools* > *Setup* > *Consumables* and ensure correct ribbon settings for the ribbon being used.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
Calibration Failed	Ribbon installed incorrectly	Reinstall the ribbon as per the ribbon loading diagram on cassette.
	Ribbon reel diameter is out of range	Use correct ribbon reel.
	Incorrect ribbon settings	Navigate to *Tools* > *Setup* > *Consumables* and ensure correct ribbon settings for the ribbon being used.
	Damaged cassette	Inspect cassette for damaged components such as baseplate, cassette rollers, mandrel, mandrel pins, and friction cones. Ensure no components are bent or misaligned. Replace components as necessary.
	Dirty ribbon detector PCB and/or emitter LEDs	Clean with dry, compressed air or foam applicator with 70% isopropyl alcohol.
	Faulty emitter LEDs	With printer being OFFLINE, test LEDs by navigating to *Tools* > *Diagnostics* > *Printhead* > *Outputs* and toggle Optical Calibration LEDs. Ensure all the LEDs illuminate. Replace printhead PCB as necessary.
Optical Calibration Sensor Dirty / Optical Calibration Failed	Ribbon installed incorrectly	Reinstall the ribbon as per the ribbon loading diagram on cassette.
	Ribbon reel diameter is out of range	Use correct ribbon reel.
	Incorrect ribbon settings	Navigate to *Tools* > *Setup* > *Consumables* and ensure correct ribbon settings for the ribbon being used.
	Damaged cassette	Inspect cassette for damaged components such as baseplate, cassette rollers, mandrel, mandrel pins, and friction cones. Ensure no components are bent or misaligned. Replace components as necessary.
	Dirty ribbon detector PCB and/or emitter LEDs	Clean with dry, compressed air or foam applicator with 70% isopropyl alcohol.
	Faulty emitter LEDs	With printer being OFFLINE, test LEDs by navigating to *Tools* > *Diagnostics* > *Printhead* > *Outputs* and toggle Optical Calibration LEDs. Ensure all LEDS illuminate. Replace printhead PCB as necessary.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
Printhead Position	Printhead motor stalling due to poorly positioned print platen	Check and adjust the print platen.
	Linear slide is obstructed or binding	Clean with dry, compressed air and replace as necessary.
	Worn or damaged belts and/or pulleys	Contact your maintenance engineer.
	Missing magnet on printhead mount	Contact your maintenance engineer.
	Faulty printhead position sensor	With printer being OFFLINE, test by navigating to *Tools* > *Diagnostics* >*Printhead* > *Outputs* and toggling Printhead Position. Printhead should travel to home and parked positions. Replace printhead PCB as necessary.
Printhead Over Temperature	Printhead overheats	Allow the printhead to cool down.
	Damaged printhead / printhead cable	Replace the printhead.
Printhead Absent	Loss of communications	Repower the printer.
Printhead Volts Error	Power supply voltage varies too much	Check the printhead power supply output.
	Faulty main printer PCB	Replace the main printer PCB.
Printhead does not move in and out	Head Belt or carriage belt clamp is loose or missing	Check and correct.
	Printhead or carriage stepper motor(s) not plugged in securely	Check and correct.
	Worn or damaged belts and/or pulleys	Contact your maintenance engineer.
	Incorrect belt tension	Contact your maintenance engineer.
	Faulty motor	Contact your maintenance engineer.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
Printhead does not drive across	Head Belt or carriage belt clamp is loose or missing	Check and correct.
	Printhead or carriage stepper motor(s) not plugged in securely	Check and correct.
	Linear slide is obstructed or binding	Clean with dry, compressed air and replace as necessary.
	Worn or damaged belts and/or pulleys	Contact your maintenance engineer.
	Incorrect belt tension	Contact your maintenance engineer.
	Faulty motor	Contact your maintenance engineer.
Thermistor Fault	Printhead cable not fully inserted onto printhead PCB	Insert printhead cable onto printhead PCB.
	Damaged printhead / printhead cable	Replace the printhead.
Motor Volts Error	Power supply voltage varies too much	Check the power supply output.
	Faulty main printer PCB	Replace the main printer PCB.
	Faulty motor	Check the motor and replace if necessary.
Webbing Error	Supply ribbon reel eccentric (+1mm)	Replace the ribbon reel.
End of Reel	Reactive Mode: Ribbon has run out. Predictive Mode: ~ 5m of ribbon left.	Replace the ribbon.
Incorrect Reel Size	Ribbon cores not fitted	Try using a different ribbon reel.
	Incorrect ribbon settings	Navigate to *Tools* > *Setup* > *Consumables* and ensure correct ribbon settings for the ribbon being used.
	High throughout Mode enabled while attempting to use ribbon greater than 700m in length	Using CLARiTY Configuration Manager, disable High Throughput Mode or use ribbon less than 700m in length.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
Substrate Speed Detection	Continuous Mode Only: Worn or missing encoder O-ring	Check condition of encoder O-ring. Replace if necessary.
	Continuous Mode Only: Encoder O-ring slipping or not making good contact with peel roller	Ensure encoder O-ring making good contact with peel roller.
	Intermittent Mode Only: Substrate is moving while printer is printing	Navigate to *Tools* > *Setup* > *Printhead*. If substrate is not settled before printer begins to print, adjust Print Delay. If substrate begins to advance before printer finishes printing, increase Print Speed.
	Ribbon is 'stuck' to the substrate and is being pulled/tugged	Ensure substrate is not 'tacky'. Try lowering Print Darkness and/or Print Force settings if needed. Intermittent Mode Only: Try increasing Print Speed.
	Ribbon going slack due to damaged cassette	Inspect cassette for damaged components such as baseplate, cassette rollers, mandrel, mandrel pins, and friction cones. Ensure no components are bent or misaligned. Replace components as necessary.
Print Cycle Error	Continuous Mode Only: Current printer settings not optimized for the application	Navigate to *Tools* > *Diagnostics* > *Printhead* > *Encoder Profiles* and Capture Encoder Profile to determine max substrate speed. Then using CLARiTY Configuration Manager, lower the Continuous Maximum Print Speed setting to be ~50-100mm/sec greater than max substrate speed.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
iAssure gives false print failures	Dirty lens	Clean lens (positioned directly above lightbox).
	Dirty lightbox	Clean lightbox.
	Ribbon tracking too much due to damaged cassette	Inspect cassette for damaged components such as baseplate, cassette rollers, mandrel, mandrel pins, and friction cones. Ensure no components are bent or misaligned. Replace components as necessary.
	Ribbon tracking too much due to printer not being square or aligned to platen pad/platen roller	Ensure printer is square to platen pad/platen roller. Shim as necessary.
	iAssure out of calibration	Using CLARiTY Configuration Manager, reset iAssure and re-run the iAssure wizard when prompted on the CLARiTY printer screen. ***Note:*** *This should only be required if iAssure components have been changed.*
	Faulty lens or lightbox	Replace as necessary.
Printer is not powering up	Power plug not fully inserted into power entry module	Check and correct.
	Power not turned on at the source or at the power supply	Check and correct.
	Low profile connection between printer and power supply not properly connected/seated	Check and correct.
	Check the 5A fuses on the power supply near the power entry module	Replace fuse(s) as necessary.
	Faulty power supply	Replace as necessary.
	Faulty power supply PCB	Replace as necessary.
	Faulty main printer PCB	Replace as necessary.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
No information is printed	Ribbon installed incorrectly	Reinstall the ribbon as per the ribbon loading diagram on cassette.
	Low Print Darkness and/or Print Force settings	Navigate to *Tools* > *Setup* > *Printhead* and increase Print Darkness and/or Print Force settings accordingly. It is recommended to use the lowest possible settings that still achieve acceptable print quality.
	Incorrect Vertical and/or Horizontal Registration setting	Navigate to *Tools* > *Setup* >*Printhead* and set Vertical and Horizontal Registration to 0 and check for print. Adjust accordingly.
	No print signal	Navigate to *Tools* > *Diagnostics* > *Printhead* > *Inputs* and check the presence of incoming print signal.
	Printhead not contacting the print platen or peel roller	Check and correct any obstructions. Add shims if needed.
	Substrate and ribbon incompatibility	Submit substrate samples to Videojet Sample Lab to determine best compatible ribbon type.
	Printer is loose on bracket mount	Confirm mounting plate 'T' handle and four mounting screws are secured and tight.
	Printhead to platen pad/peel roller distance is too large (>5mm)	Navigate to *Tools* > *Diagnostics* > *Printhead* > *Inputs* and ensure Printhead to Platen Distance does not exceed 5mm. Recommended printhead to platen pad or peel roller distance (printhead gap) is 2mm. Printhead gap can be measured using VJ tool. VJ part number is SAR10222. Adjust accordingly using shims if needed.
	Continuous Mode Only: Incorrect Print Position setting	Navigate to *Tools* > *Setup* >*Printhead* and check the Print Position to ensure optimum printhead position directly over the peel roller centerline.
	Continuous Mode Only: Incorrect or no encoder signal	Navigate to *Tools* > *Diagnostics* > *Printhead* > *Inputs* > *Encoder* and ensure encoder direction is registering as Forward on the screen and also detecting a speed value.
	Continuous Mode Only: Substrate came to an abrupt stop when printing or substrate speed dropped below 1mm/sec	Ensure substrate does not come to an abrupt stop or speed drops below 1mm/sec when printing. If this is not possible, use CLARiTY Configuration Manager to adjust Low Speed Behaviour setting accordingly.

Table 8-1: Printer Faults (continued)

Error Message	Possible Causes	Remedies
	Intermittent Mode Only: Substrate is moving while printer is printing	Navigate to *Tools* > *Setup*> *Printhead.* If substrate is not settled before printer begins to print, adjust Print Delay. If substrate begins to advance before printer finishes printing, increase Print Speed.
	Intermittent Mode Only: Incorrect Print Speed setting	Navigate to *Tools* > *Setup* >*Printhead* and set Print Speed to default of 200mm/sec. Check for print and adjust accordingly.
	Worn or damaged printhead	Replace the printhead.
	Invalid or corrupt Job selected	Select a different or valid Job.
	Incorrect Printhead Mapping	Connect with CLARiTY Configuration Manager and ensure correct Printhead Mapping.
Printer will not go ONLINE	Invalid or no Job selected	Select a valid Job.
	Fault message not cleared	Clear the fault message.

Table 8-1: Printer Faults (continued)

8.2 Printing Faults

Error Message	Possible Causes	Remedies
Top or bottom of print is missing or ragged	Intermittent Mode Only: Incorrect Intermittent Start Border Trim setting	Connect with CLARiTY Configuration Manager and set Intermitent Start Border Trim to 20. Check print quality and adjust accordingly.
	Intermittent Mode Only: Substrate is moving while printer is printing	Navigate to *Tools* > *Setup* > *Printhead*. If substrate is not settled before printer begins to print, adjust Print Delay. If substrate begins to advance before printer finishes printing, increase Print Speed.
	Intermittent Mode Only: Incorrect Horizontal Registration setting	Navigate to *Tools* > *Setup* > *Printhead* and set Horizontal Registration to 0. Check print quality and adjust accordingly.
	Intermittent Mode Only: Worn or damaged print pad	Check and replace if necessary.
Thin lines of missing print consistently in the same spot (cleaning does not help)	Worn or damaged printhead	Replace the printhead.
Poor print quality	Incorrect Print Darkness and/or Print Force settings	Navigate to *Tools* > *Setup* > *Printhead* and increase Print Darkness and/or Print Force settings accordingly. It is recommended to use the lowest possible settings that still achieve acceptable print quality.
	Incorrect Vertical and/or Horizontal Registration setting	Navigate to *Tools* > *Setup* >*Printhead* and set Vertical and Horizontal Registration to 0 and check for print. Adjust accordingly.
	Substrate and ribbon incompatibility	Submit substrate samples to Videojet Sample Lab to determine best compatible ribbon type.
	Printer is loose on bracket mount	Confirm mounting plate 'T' handle and four mounting screws are secured and tight.
	Poor alignment of printer to print platen or peel roller	Ensure proper alignment and printer is square to print platen or print roller. Use shims between printer and mounting plate if needed.

Table 8-2: Printing Faults

Error Message	Possible Causes	Remedies
	Printhead to platen pad/peel roller distance is too large (>5mm)	Navigate to *Tools* > *Diagnostics* > *Printhead* > *Inputs* and ensure Printhead to Platen Distance does not exceed 5mm. Recommended printhead to platen pad or peel roller distance (printhead gap) is 2mm. Printhead gap can be measured using VJ tool. VJ part number is SAR10222. Adjust accordingly using shims if needed.
	Continuous Mode Only: Incorrect Print Position setting	Navigate to *Tools* > *Setup* >*Printhead* and check the Print Position to ensure optimum printhead position directly over the peel roller centerline.
	Continuous Mode Only: Worn or missing encoder O-ring	Check condition of encoder O-ring. Replace if necessary.
	Continuous Mode Only: Encoder O-ring slipping or not making good contact with peel roller	Ensure encoder O-ring making good peel roller contact with peel roller.
	Continuous Mode Only: Substrate came to an abrupt stop when printing or substrate speed dropped below 1mm/sec	Ensure substrate does not come to an abrupt stop or speed drops below 1mm/sec when printing. If this is not possible, use CLARiTY Configuration Manager to adjust "Low Speed Behaviour" setting accordingly.
	Intermittent Mode Only: Substrate is moving while printer is printing	Navigate to *Tools* > *Setup* >*Printhead*. If substrate is not settled before printer begins to print, adjust "Print Delay". If substrate begins to advance before printer finishes printing, increase "Print Speed".
	Intermittent Mode Only: Incorrect "Print Speed" setting	Navigate to *Tools* > *Setup* >*Printhead* and set "Print Speed" to default of 200mm/sec. Check print quality and adjust accordingly.
	Dirty printhead	Power off the printer, allow printhead to cool, then clean the printhead with Videojet printhead cleaning kit (Videojet part number is 216054).
	Worn or damaged printhead	Replace the printhead.
	Dirty, worn, or damaged print platen or peel roller	Check, clean, reposition, or replace if necessary.

Table 8-2: Printing Faults (continued)

8.3 CLARiTY Display Faults

Fault	Cause	Solution
CLARiTY GUI not powering up	Low profile connection between printer and power supply not properly connected/seated	Check and correct.
	CLARiTY GUI not inserted onto port on power supply	Check and correct.
	Check the 5A fuses on the power supply near the power entry module	Replace fuse(s) as necessary.
	Faulty power supply	Replace as necessary.
	Faulty power supply PCB	Replace as necessary.
	Faulty main printer PCB	Replace as necessary.
	Power plug not fully inserted into power entry module	Check and correct.
	Power not turned on at the source or at the power supply	Check and correct.

Table 8-3: CLARiTY Display Faults

8.4 CLARiTY Error Messages

If CLARiTY displays a fault or warning, perform the following:

- Read the fault or warning message.

Figure 8-1: Fault Status

Figure 8-2: Warning Status

- Perform the task as per the message.
- Clear the message from the display (sometimes the message clears automatically when the fault is corrected, and sometimes you have to clear it by touching the *Clear* button).

8.4.1 Reading a Fault Message or Warning

When a fault or warning occurs, CLARiTY displays the fault message in the status window at the top of all pages.

When a fault occurs, the printer's fault output relay will open. If this relay is wired into the packaging machine's stop circuit, it can be used to ensure that the packaging machine is stopped in the event of an error. This prevents the uncoded product from being produced when the printer has a fault.

For example, when the ribbon supply is pulled by the substrate, CLARiTY will display the red FAULT banner with the message *Ribbon Pull Through*, as shown in Figure 8-3.

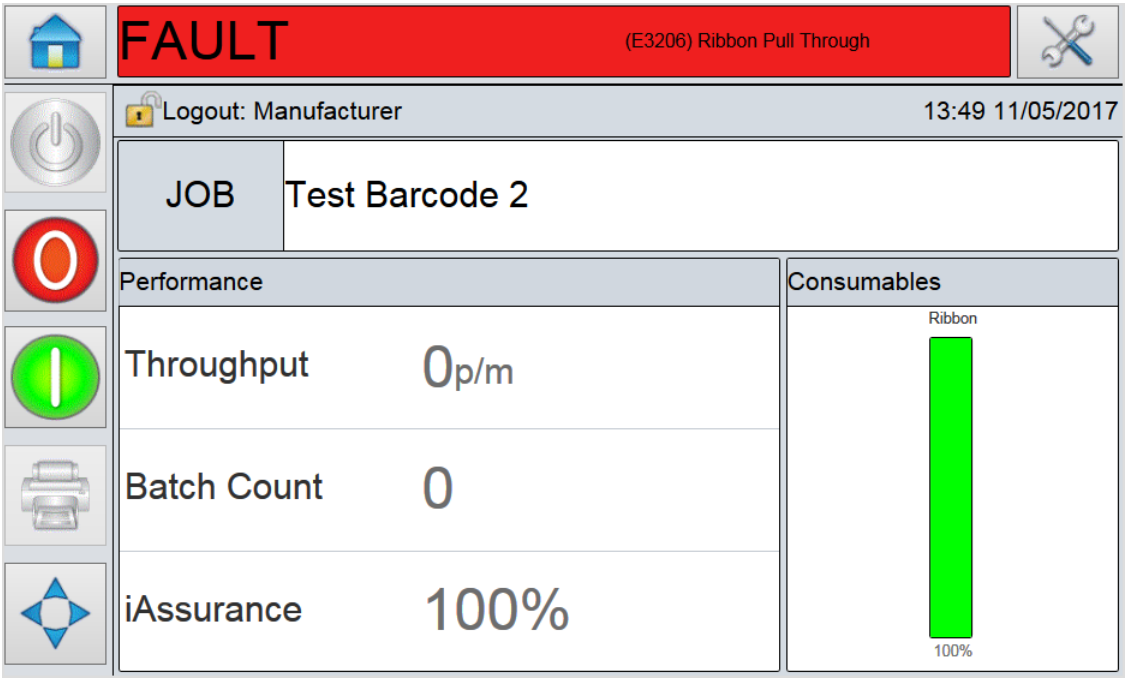


Figure 8-3: Fault Display

Several faults and warnings may occur at the same time. Faults will always be displayed first.

To view the faults/warnings in more detail and to view instructions on what to do about them, touch the red or yellow area in the status window at the top of the CLARiTY display.

8.4.2 Clearing a Fault Message or Warning

The instructions in this section provides information on how to clear a fault message. A similar procedure is used to clear warnings.

To view the details of the fault list, proceed as follows:

1. Touch the red FAULT message to view the list of faults (see Figure 8-4).

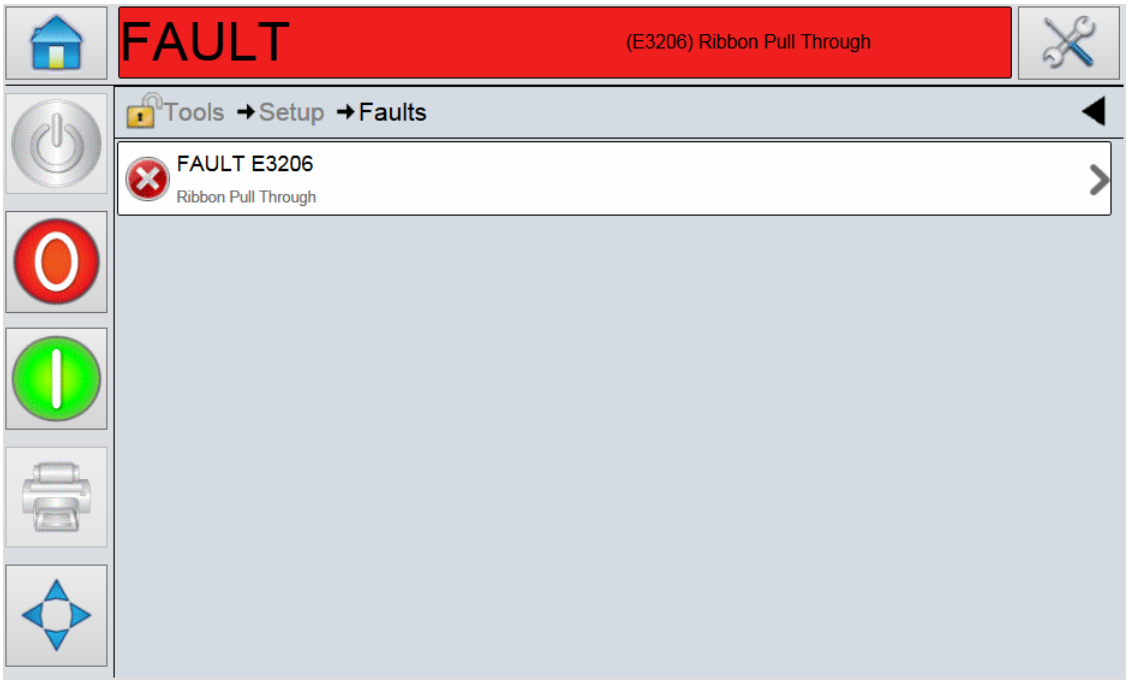


Figure 8-4: Fault Selection

2. Touch the fault name in the list.

3. The details of the fault is displayed. Follow the on screen instruction for correcting the fault.

Figure 8-5: Fault Details Display

4. When you have corrected the fault, the Clear button is activated.
5. Touch Clear to remove the fault message.

For more information on how to clear CLARiTY faults and warnings, refer to Service Manual.

Appendix A Specifications

Introduction

This section provides the printer specifications and contains the following topics:

- Technical Specifications
- CLARiTY Controller Specifications
- Print Specifications
- Networking and External Communications
- Printer Dimensions
- CLARiTY Controller

A.1 Technical Specifications

Table A-1 lists the technical specifications of the printer.

Technical Specification	53 mm
Printer	
Unique Solid State Ribbon Drive	Intermittent Motion and Continuous Motion
Printhead	53 mm (2.1″), 300 dpi, 12 dots/mm
Print Area - Intermittent Motion Mode	53 mm (W) x 75 mm (L) (2.1″ x 3.0″)
Print Area - Continuous Motion Mode	53 mm (W) x 300 mm (L) (2.1″ x 11.8″)
Ribbon Width	20 mm - 55 mm (0.8″ - 2.2″)
Maximum Ribbon Length	1200 metres (3937′)
Print Speed	
Intermittent Motion Mode	10 mm/sec - 800 mm/sec (0.4″/sec - 31.5″/sec)
Continuous Motion Mode	1 mm/sec - 1000 mm/sec (0.04″/sec - 39.4″/sec)
Maximum Throughput	Normal print mode: 500 ppm High throughput mode: 700 ppm ***Note**: ppm (prints per min) is dependent on pack size.*
Dimensions	
Printhead (including cassette)	204 mm (W) x 178 mm (H) x 182 mm (D)
Touch Screen Display	240 mm (W) x 165 mm (H) x 34 mm (D)
Power Supply Unit (PSU)	226.87 mm (W) x 150 mm (H) x 85 mm (D)

Table A-1: Technical Specifications

Technical Specification	53 mm
Inputs/Outputs	
External Inputs	3 PNP inputs, configurable from: Print sensor 1 Print sensor 2 Print sensor select Inhibit print External error/stop Clear print queue
External Outputs	2 relay outputs (1 change-over + 1 N/O) and 2 PNP +24V outputs (max source current = 100mA per output), configurable from CLARiTY Configuration Manager On-line/Off-line Warning Busy Printing (actually energising print dots) Labeller feed Print cycle active (Start to end of print and ribbon rewind) Update print queue full New allocation Print failed (i.e. interrupted in mid print) Fault
Operator Interface (CLARiTY)	TFT SVGA 800 x 480
Power supply requirements	100 - 240 VAC, 50/60 Hz, 1.56A
Operating Temperature	0° - 40° C (32° - 104° F)

Table A-1: Technical Specifications (continued)

A.2 CLARiTY Controller Specifications

Table A-2 lists the CLARiTY controller specifications

System Specifications	Description
Operator Interface	Full color LCD Touch-Panel CLARiTY Interface
	Job Selection and database support as standard. WYSIWYG Print Preview
Password protection	3 standard User-Levels
Remote Coder Configuration Software	CLARiTY Configuration Manager
	Offline Set Up and Parameter Storage available as standard
Diagnostics	On-Board Diagnostics as standard

Table A-2: System Specifications

A.3 Print Specifications

Table A-3 lists the print specifications.

Print Specifications	Description
Image Design Software	Claricom CLARiSOFT Package Coding Design Software
Font Support	Full downloadable font support for Windows TrueType (including multiple languages and Unicode support)
Text	Scalable text including rotation, mirror and inverse printing
Supported Field Types	Fixed, Variable (User Entered), Merged, Database, Counters, Date, Offsets, Time, Paragraph (Text Blocks) Basic shape drawing (circles, rectangles and so on)
Special Functions	Auto real time and date functions
	Auto best before date calculation and concession management
	Auto incrementing, decrementing text, counters and barcodes
Barcode Printing	EAN 8, EAN 13, UPC-A, UPC-E, Code 39, EAN 128, Code 128, QR, Data matrix, RSS, ITF[3]
Graphics, Images and Logos	Multiple graphic formats supported using CLARiSOFT. Any size up to maximum print area
Print Functions	Mirror image printing, image rotation and inverse printing
Day Code Support	Hour, Day of Week, Day of Month, Week of Year, Month of Year, Year of Decade and Arabic Date Support
Code Options	Start of Day, Shift Codes, Factory, Machine, Line ID
Field Orientation	0°, 90°, 180°, 270°

Table A-3: Print Specifications

[3]Others available upon request

A.4 Networking and External Communications

Table A-6 lists the networking and external communications

Networking and External Communications	Component	Quantity
External Data Communication	RS232 Point-to-Point Communications	1
	Ethernet 10/100 Base TX network communications	2
	Binary and ASCII Comms Protocols and Windows and Drivers	1
	Host PC Mode (Remote Database) using CLARiNET	1
	USB Port	2
Master/Slave Functionality	Group Job Selection Function and Group Printer Control Functions	1
Network Control Software	Claricom CLARiNET Coder Independent Network Management Software	1

Table A-4: Networking and External Communications

A.5 Printer Dimensions

Figure A-1 shows the dimensions of the 53 mm (RH) printer.

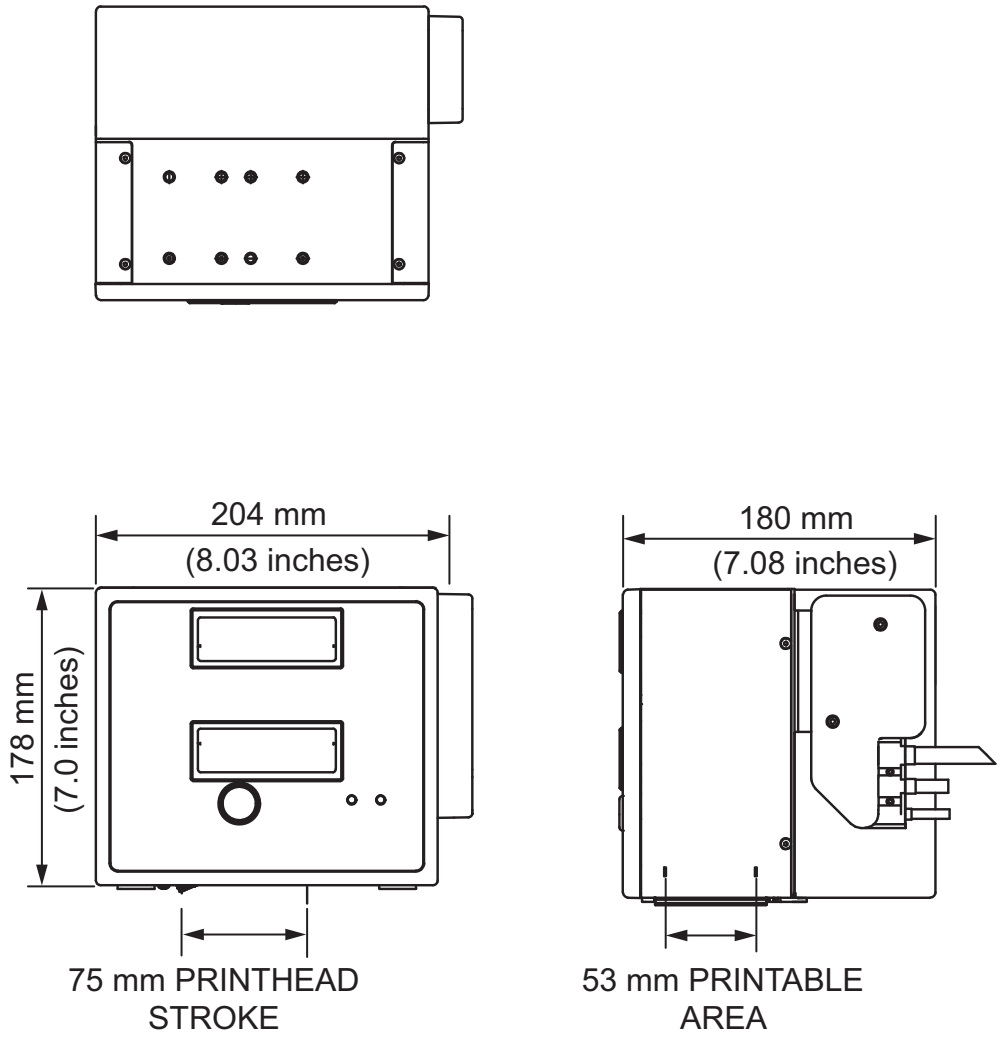


Figure A-1: Videojet DataFlex 6530 *53mm RH Printer Dimensions*

Figure A-2 shows the dimensions of the 53 mm (LH) printer.

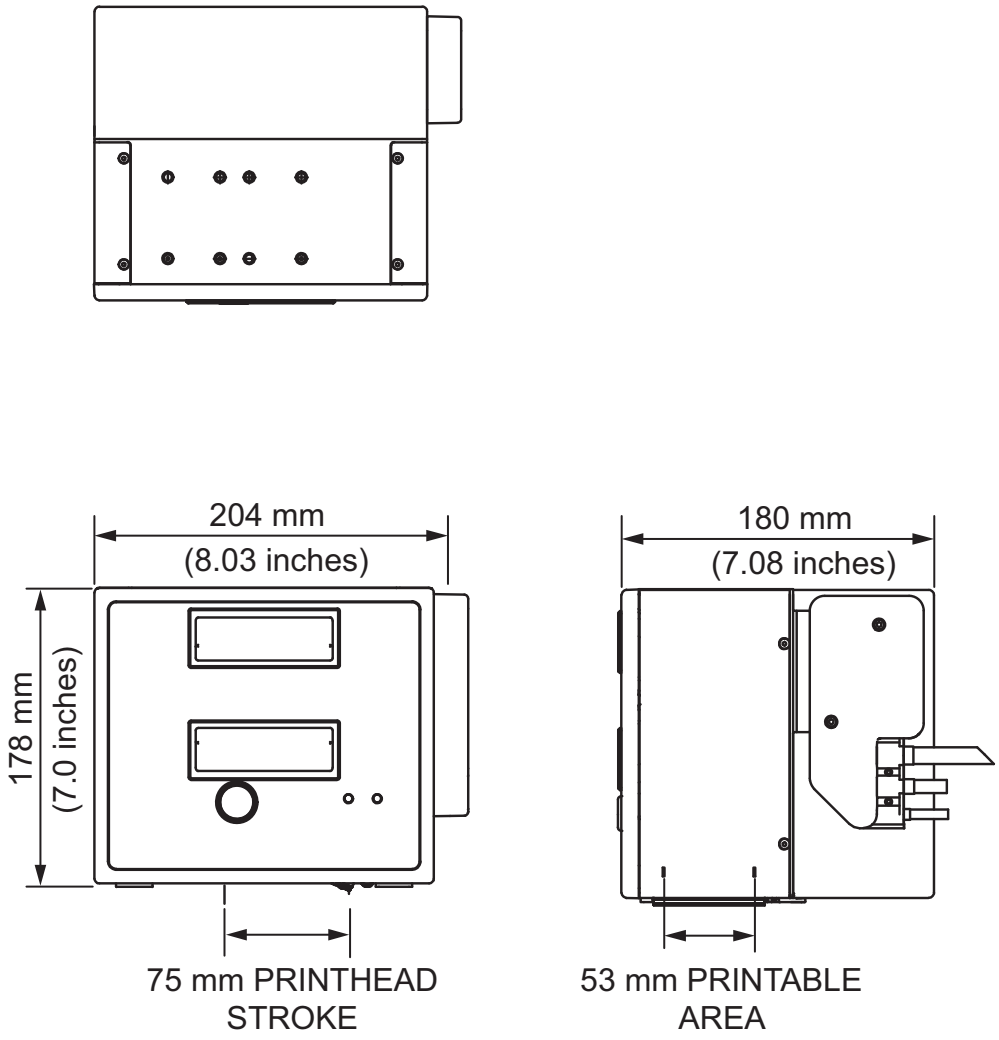
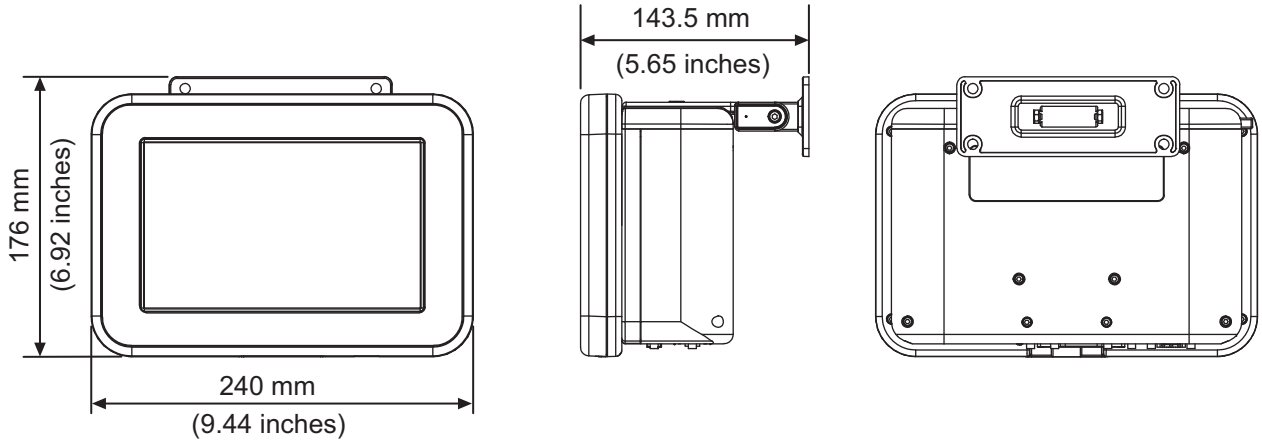


Figure A-2: Videojet DataFlex 6530 *53mm LH Printer Dimensions*

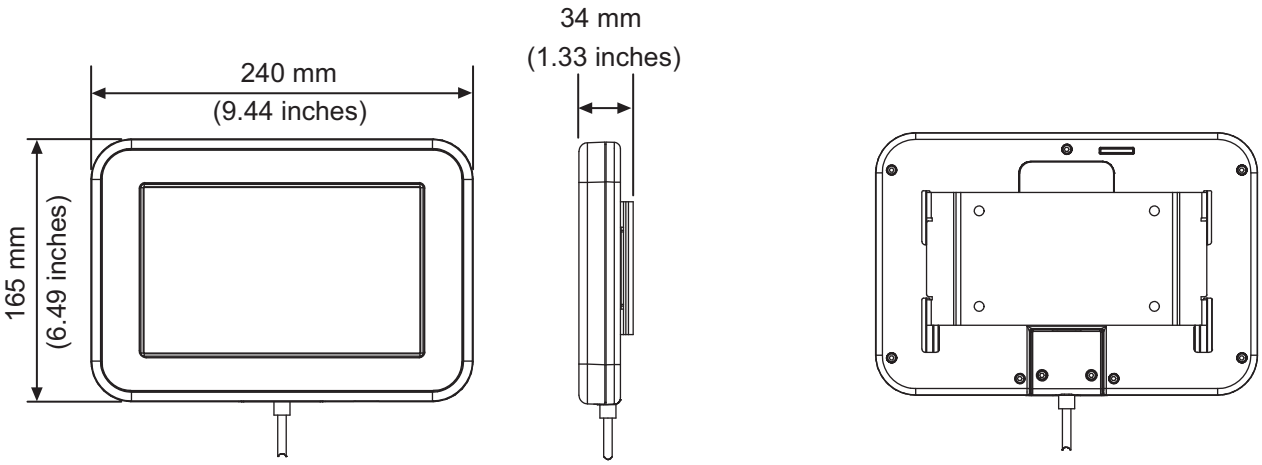
A.6 CLARiTY Controller

Figure A-3 shows the dimensions of the CLARiTY controller.

Touch Screen Display and PSU Combined



Touch Screen Display



PSU

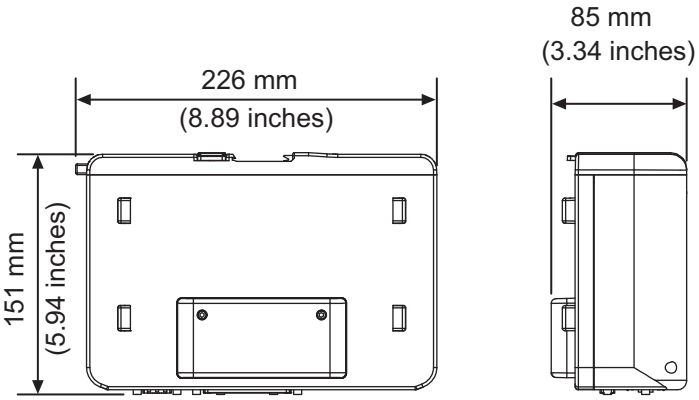


Figure A-3: CLARiTY Controller Dimensions

Appendix B Availability

B.1 Overall Equipment Effectiveness - Availability Tools

B.1.1 Introduction

Availability is a measurement of equipment uptime. It is the amount of time that the equipment is ready to run when required by production. This is one of the three key metric of OEE and is available for Videojet DataFlex 6530.

The 'Availability' tool helps to isolate operational versus equipment issues and enables the user to track the printer downtime and view the downtime statistics. The screen of faults that allows the analysis of runtime measurement data helps the user to understand and eliminate the more frequent causes of both equipment and operational downtime.

The availability shows two basic availability metrics simultaneously:

- Equipment Availability
- Operation Availability

Note: *Operation Availability can be changed between two separate production time proxies as required by the user: "power on" and "running" mode. For more information, refer* *"Operation Availability" on page B-2*.

$$\text{Availability\%} = \frac{\text{Operating Time}}{\text{Planned Production Time}}$$

Where

- Operating Time is Total Printer Uptime
- Planned Production Time is the Actual Line Run Time Expected*.

*Based on proxy selected 'power on' or 'running'.

B.2.2 Equipment Availability

Equipment Availability tracks the downtime directly related to an internal error (fault).

Equipment Availability is defined as

$$\text{Equipment Availability} = 1 - \frac{\text{Equipment Downtime}}{\text{Equipment Total Time}}$$

'Equipment Total Time' is the total amount of time for which the Equipment is turned on (has power applied). If the equipment is powered down when a fault is active, the amount of time that the equipment is off is also included in this equipment total time.

'Equipment Downtime' is the amount of 'Equipment Total Time' the printer has spent in a 'Equipment Fault State'. 'Equipment Fault state' is defined as the period where the equipment is not available due to a fault identified as a equipment fault. For more information, refer Service Manual.

B.3.3 Operation Availability

This is a broader measure to reflect the full impact of the down time to production line. Operation Availability tracks the downtime related to faults that might be classed as "Procedural".

The impact may be due to equipment issues, operator related issues, shift changeovers and so on.

Operation Availability is defined as

$$\text{Operation Availability} = 1 - \frac{\text{Operation Downtime}}{\text{Production Time}}$$

The Production Time Proxy allows the availability calculation to change between customer selected operating modes, 'running' or 'power on'. The production time is defined based on the production time proxy chosen:

- Running: If both equipment and printer are switched ON.
- Power On: If the equipment is switched ON irrespective of the status of the printer.

If the equipment is powered down when a fault is active, the amount of time that the equipment is off is also included in the production time.

'Operation Downtime' is the amount of 'Production Time' the printer has spent in an 'Operation Fault State'. 'Operation Fault state' is defined as the period where the equipment is not available due to a fault identified as a operation fault.

Note: *Refer service manual for further information on equipment and operation fault states.*