



Ax-Series Product Manual

AxI30i

AxI50i

Ax350i

Ax550i

DOMINO

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AMENDMENT RECORD

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All parts at Issue 3
All parts at Issue 4
All parts at Issue 5
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PREFACE TO THE PRODUCT MANUAL

This Product Manual, Domino Part No. EPT019297, is the official authority for the installation, operation, maintenance and recycling of Domino Ax-Series Continuous Ink Jet units.

This Product Manual should be used to reinforce and complement any training program available with the product. It is not designed to replace any such training program.

This product manual is the source document for all translated versions. It is the "Original Instructions" for the purposes of the Machinery Directive.

Domino will not accept any liability for damage to equipment or injury to personnel caused by unauthorized or improper use of the Continuous Ink Jet equipment.

Only engineers trained by Domino should carry out repairs, adjustments or in any other way alter settings or machine parts. Domino original parts shall always be used to ensure quality and performance.

Users of this equipment are warned that it is essential to read, understand and act according to the information given in Part 1: Health and Safety. This part of the Product Manual also specifies a set of symbols which are used elsewhere in the Product Manual to convey special warnings or requirements. It is, therefore, essential that users are also familiar with these symbols and act accordingly.

It is important to:

- Keep the manual during the lifetime of the equipment.
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| | |
|------|--|
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|------|--|

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This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts.

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Note The components listed below relate to the Ax130i.

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| | | |
|-----------------------|-------------------------|---------------------|
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| audit | kmod | procps-ng |
| base-files | latencytop | psmisc |
| base-passwd | libaio | psplash |
| bash | libatomic | qt |
| bash-completion | libattr | readline |
| bc | libbfd | rsync |
| binutils | libcap-ng | sed |
| blktrace | libcomps | shadow |
| btrfs-tools | libcpu | shared-mime-info |
| busybox | libdnf | slang |
| ca-certificates | libevdev | socat |
| cairo | libgcc | spidev |
| chkconfig | libgcrypt | spi-tools |
| coreutils | libgomp | squashfs-tools |
| cryptodev-linux | libidn | stress-ng |
| dbus | libstdc++ | sysfsutils |
| dbus-glib | libvncserver | sysprof |
| device-tree | libxkbcommon | sysstat |
| devmem2 | linux-mvista | systemd |
| diffutils | linux-pam | tcpdump |
| dnf | lttng-modules | tigervnc |
| e2fsprogs | lttng-tools | trace-cmd |
| elfutils | lttng-ust | tree |
| FreeRTOS | lz4 | u-boot-fw-utils |
| fuse | lzo | u-boot-xnlx |
| fuse-exfat | m4 | update-rc |
| gawk | make | usbutils |
| gcc | matchbox-terminal | util-linux |
| gdb | matchbox-window-manager | valgrind |
| gdbm | mini-x-session | vim |
| glibc | netbase | vpnc |
| gnupg | novnc | wget |
| gnutls | ntfs-3g-ntfsprogs | which |
| gobject-introspection | openconnect | x11vnc |
| grep | opkg-utils | xf86-input-keyboard |
| hdparm | pciutils | XilinxVirtualCable |

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initscripts

perl
pinentry

xserver-nodm-init

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| acl | libaio | mpc |
| adwaita-icon-theme-symbolic | libasm | mpfr |
| atk | libassuan | nettle |
| at-spi2-atk | libattr | npth |
| at-spi2-core | libcap-ng | ntfs-3g-ntfsprogs |
| audit | libcgroun | openconnect |
| bc | libcpu | pango |
| binutils | libdw | powertop |
| btrfs-tools | libelf | procps-ng |
| busybox | libgcrypt | ps_mem |
| cairo | libgpg-error | python3-gpg |
| chardet | libgpiod | python3-rpm |
| cracklib | libidn | python3-systemd |
| dbus | libkmod | qt |
| e2fsprogs | libksba | rauc |
| fuse | libmatchbox | rpm |
| gawk | libnewt | startup-notification |
| gcc | libnl | sysprof |
| gconf | libproxy | systemd |
| gdb | librawlite | tigervnc |
| gdk-pixbuf | librepo | trace-cmd |
| glib | libsemanage | tree |
| glibc | libsepol | tslib |
| glib-utils | libsysfs | u-boot-xnln |
| gmp | libunistring | userspace-rcu |
| gnome-desktop-testing | libusb | util-linux |
| gnome-themes-standard | libvncserver | util-linux-blkid |
| gnupg | libvte | util-linux-fdisk |
| gnutls | linuxfd | util-linux-libmount |
| gobject-introspection | linux-mvista | util-linux-smartcols |
| gpgme | linux-pam | valgrind |
| gtk+ | lttng-modules | vim |
| json-glib | lttng-tools | which |
| kmod | lttng-ust | |
| libacl | make | |

CONTENTS

| | page |
|---|------|
| - Domino. | 2 |
| Amendment Record. | 2 |
| Preface to the Product Manual. | 3 |
| End User License Agreement. | 4 |
| FCC Notice. | 5 |
| European EMC Statement. | 5 |
| Software Licensing. | 5 |
| Software Credits. | 6 |
| GNU General Public License Components. | 7 |
| GNU Lesser General Public License Components. | 9 |
| PART 1 - HEALTH AND SAFETY. | 17 |
| Warnings, Cautions and Notes. | 17 |
| Symbols. | 17 |
| Product/Battery End of Life. | 19 |
| USA State of California Battery Statement. | 19 |
| Inks and Fluids Information. | 20 |
| Basic Requirements. | 20 |
| Storage. | 21 |
| Fire Risk. | 22 |
| Spillages and Disposal. | 23 |
| Electro-Static Discharge. | 24 |
| Operation. | 24 |
| PART 2 - SYSTEM DESCRIPTION. | 25 |
| General. | 25 |
| Description. | 25 |
| Ax130i Printer. | 26 |
| Ax150i Printer. | 27 |
| Ax350i Printer. | 28 |

| | |
|--|----|
| Ax550i Printer. | 30 |
| Printer Configuration Labels. | 31 |
| External Configuration Label. | 31 |
| Internal Configuration Label. | 32 |
| Ax130i Specification. | 34 |
| Ax130i Cabinet. | 34 |
| Ax130i Electrical Supply. | 34 |
| Ax130i External Connections. | 34 |
| Ax130i Ink System. | 35 |
| Ax130i Environment. | 35 |
| Ax130i Intentional Transmitter (QMM). | 35 |
| Ax130i i-Pulse2 Print Head. | 36 |
| Ax150i Specification. | 37 |
| Ax150i Cabinet. | 37 |
| Ax150i Electrical Supply. | 37 |
| Ax150i Standard External Connections. | 37 |
| Ax150i Optional External Connections. | 38 |
| Ax150i Ink System. | 38 |
| Ax150i Environment. | 38 |
| Ax150i Intentional Transmitter (QMM). | 39 |
| Ax150i i-Pulse Print Head. | 39 |
| Ax350i/Ax550i Specification. | 40 |
| Ax350i/Ax550i Cabinet. | 40 |
| Ax350i/Ax550i Electrical Supply. | 40 |
| Ax350i/Ax550i Standard External Connections. | 40 |
| Ax350i/Ax550i Optional External Connections. | 41 |
| Ax350i/Ax550i Ink System. | 41 |
| Ax350i/Ax550i Environment. | 42 |
| Ax350i/Ax550i Intentional Transmitter (QMM). | 42 |
| Ax350i/Ax550i i-Pulse Print Head. | 43 |
| Ax350i/Ax550i i-Pulse V90 Print Head. | 44 |
| Ax350i/Ax550i i-Pulse H90 Print Head. | 45 |
| Ax350i/Ax550i i-Pulse Duo Print Head. | 46 |
| Ax350i/Ax550i i-Pulse RS Print Head. | 47 |
| User Interface Specification. | 48 |
| Remote TouchScreen 10" (Ax350i/Ax550i Only). | 48 |
| Remote TouchScreen 7" (Ax350i/Ax550i Only). | 49 |
| Printer Control. | 50 |
| Cabinet Buttons. | 50 |
| Cabinet Status Lights. | 51 |
| QMM (Quality Management Module) Status Lights. | 53 |
| QuickStep. | 54 |

| | |
|---|----|
| PART 3 - INSTALLATION. | 55 |
| Introduction. | 55 |
| Printer Installation. | 57 |
| Cabinet Positioning. | 57 |
| Conduit and Print Head Positioning. | 59 |
| Ventilation. | 61 |
| Electrical Supply. | 62 |
| Printer Cabinet Stacking Requirements. | 63 |
| Printer Stand Types. | 67 |
| Installation Dimensions. | 68 |
| Ax130i/Ax150i. | 68 |
| Ax350i/Ax550i. | 68 |
| i-Pulse Print Head. | 69 |
| i-Pulse V90 Print Head. | 70 |
| i-Pulse H90 Print Head. | 71 |
| i-Pulse2 Print Head. | 72 |
| i-Pulse Duo Print Head. | 73 |
| i-Pulse RS Print Head (60 µ Nozzle). | 74 |
| i-Pulse RS Print Head (75 µ Nozzle). | 75 |
| External Connections. | 76 |
| Ax130i Side. | 76 |
| Ax130i Rear. | 77 |
| Ax150i Side. | 78 |
| Ax150i Rear. | 79 |
| Ax350i/Ax550i Rear. | 80 |
| Product Detect/Shaft Encoder Socket Description. | 82 |
| Product Detect/Shaft Encoder PNP and NPN Selection. | 84 |
| Sensor Installation. | 85 |
| Sensor Positioning. | 85 |
| TouchScreen Installation (Ax350i/Ax550i). | 86 |
| Remote TouchScreen 10". | 86 |
| Remote TouchScreen 7". | 87 |
| Ax350i TouchScreen Mounting. | 88 |
| Ax550i TouchScreen Mounting. | 89 |
| TouchScreen Connectivity. | 90 |
| Preparing the Ink System. | 91 |
| Start-up. | 91 |
| Prepare the Print Head. | 92 |
| ITM Installation. | 93 |
| Ink and Make-up Cartridge Installation. | 96 |
| Prime the Ink System. | 99 |

| | |
|---|-----|
| Wake-up Mode. | 100 |
| Enable/Disable Wake-up Mode. | 100 |
| Set a Custom Wake-up Mode Interval. | 101 |
| Enable Counter Reset on Home Screen. | 102 |
| Enable GPI Counter Updates Only. | 102 |
| Set System Date/Time and Language. | 103 |
| Production Line Setup. | 104 |
| Line Movement. | 104 |
| Print Trigger. | 120 |
| Ink Jet Throw Distance Setup (i-Pulse/i-Pulse2/i-Pulse RS). | 125 |
| Ink Jet Throw Distance Setup (i-Pulse Duo). | 126 |
| Ink Jet Velocity Setup. | 127 |
| Product Monitor. | 128 |
| Print Height Calibration Wizard. | 129 |
| Modulation Mode Setup. | 130 |
| Network Setup. | 131 |
| Network Connectivity Diagrams. | 131 |
| PC QuickStep to Networked Printer Setup. | 136 |
| PC Web Browser to Networked Printer Setup. | 138 |
| TouchScreen to Networked Printer Setup. | 139 |
| PART 4 - OPERATION. | 142 |
| Quickstep Interface. | 142 |
| Home Screen. | 142 |
| Setup Screen. | 145 |
| Production Line Setup Screen. | 146 |
| Print Optimisation Screen. | 147 |
| Label Creator Screen. | 149 |
| Printer Information Screens. | 151 |
| Connections and Consumables Screen. | 152 |
| Print Counts Screen. | 154 |
| Overall Equipment Efficiency Screen. | 158 |
| Live Status Screen. | 159 |
| Start-up. | 160 |
| Start-up to the Ready State. | 160 |
| Start-up to the Idle State. | 160 |
| Switch Between the Ready State and Idle State. | 161 |
| Shut Down. | 162 |

| | |
|--|-----|
| Recommendations for a Long Shut Down. | 163 |
| Less Than 14 Days. | 163 |
| Longer Than 14 Days. | 164 |
| Essential Security Mode. | 165 |
| Enable/Disable Essential Security. | 165 |
| Log In. | 166 |
| Log Out. | 166 |
| Enable Auto Log-in. | 167 |
| Disable Auto Log-in. | 167 |
| Change Password. | 168 |
| Creating and Editing a Label. | 169 |
| Create a New Label. | 169 |
| Edit a Label Layout. | 170 |
| Label Settings. | 171 |
| Label Elements. | 178 |
| Variable Label Elements. | 186 |
| Lock/unlock Label Elements. | 199 |
| Preview Label. | 200 |
| Open and Edit a Label. | 200 |
| Save Label. | 206 |
| Images. | 207 |
| Create an Image. | 207 |
| Edit an Image. | 208 |
| Import an Image. | 209 |
| Label Store and File Management. | 210 |
| Select Existing Label. | 210 |
| File Manager. | 211 |
| Create a New Label Folder. | 213 |
| Set the Default Label Store Folder. | 214 |
| Import a Label. | 215 |
| Import Single Jet Labels into Duo Printers. | 215 |
| Export a Label. | 216 |
| Delete a Label. | 217 |
| Backup Printer. | 218 |
| Create a Backup. | 218 |
| Restore Labels or Production Line from a Backup. | 219 |
| Editor Defaults. | 220 |
| Print Offset. | 220 |
| Repeat Print. | 221 |
| Default Font Size. | 224 |
| Prevent Duplicate Prompts. | 224 |
| Clocks / Dates. | 224 |



| | |
|---|-----|
| Regional Settings. | 225 |
| Set the Language and Keyboard. | 225 |
| Set the Master Clock. | 225 |
| Global Print Settings. | 226 |
| Position / Orientation. | 226 |
| Content. | 228 |
| Statuses, Alerts and Fault Finding. | 229 |
| Statuses. | 229 |
| Alerts. | 230 |
| Alert ID Codes. | 231 |
| Fault Finding. | 240 |
| PART 5 - MAINTENANCE & TROUBLESHOOTING. | 241 |
| General Maintenance. | 241 |
| Ink and Make-up Cartridge Replacement. | 242 |
| Make-up Module Filter Replacement. | 246 |
| ITM Replacement. | 248 |
| Air Filter Replacement. | 253 |
| Clearing a Blocked Nozzle. | 255 |
| Gutter Airflow Adjustment. | 256 |
| i-Pulse Print Head Maintenance. | 257 |
| i-Pulse Print Head Cleaning. | 257 |
| i-Pulse Gutter Cleaning. | 259 |
| i-Pulse Ink Jet Alignment Check. | 261 |
| i-Pulse External Cleaning (IP65 Cover). | 262 |
| i-Pulse2 Print Head Maintenance. | 264 |
| i-Pulse2 Print Head Cleaning. | 264 |
| i-Pulse2 Gutter Cleaning. | 269 |
| i-Pulse2 Ink Jet Alignment Check. | 270 |
| i-Pulse Duo Print Head Maintenance. | 271 |
| i-Pulse Duo Print Head Cleaning. | 271 |
| i-Pulse Duo Gutter Cleaning. | 273 |
| i-Pulse Duo Ink Jet Alignment Check. | 275 |
| i-Pulse RS Print Head Maintenance. | 276 |
| i-Pulse RS Print Head Cleaning. | 276 |
| i-Pulse RS Gutter Cleaning. | 279 |
| i-Pulse RS Ink Jet Alignment Check. | 281 |

| | |
|---------------------------------------|-----|
| Software. | 283 |
| Upgrade with USB Flash Drive. | 283 |
| PART 6 - PACKS. | 285 |
| Performance Pack Overview. | 285 |
| Installation and Migration. | 286 |
| Performance Pack Details. | 288 |
| Extended Raster Pack. | 288 |
| Professional Printing Pack. | 289 |
| Operator Assistance Pack. | 295 |
| Advanced Security Pack. | 301 |
| Green Pack. | 311 |
| Connectivity Pack Overview. | 316 |
| Connectivity Pack Details. | 317 |
| Extended Comms Pack. | 317 |
| Status Pack. | 321 |
| RS232 Pack. | 324 |
| Comms Pack. | 327 |
| IO Packs. | 328 |
| Using IO Packs. | 335 |

PART 1 HEALTH AND SAFETY

WARNINGS, CAUTIONS AND NOTES

The warnings, cautions and notes used throughout this Product Manual are highlighted by the use of international hazard symbols. The following definitions for all three of these notices are described below in the format they are presented in this Product Manual.

| WARNING What is the hazard. Risk of personal injury. | |
|---|---|
|  | A warning is used to alert the reader of hazards which may cause loss of life, physical injury or ill health. |
| CAUTION Possible hazard. Risk of damage to equipment. | |
|  | A caution is used to alert the reader of possible hazards which may cause damage to equipment or the environment. |

Note A note is used to alert the reader to important information

Symbols

The following symbols are used in this product manual to highlight specific warnings and cautions used in the procedure below the symbols.



Warning or Caution, read and comply with the warning or caution text to avoid physical injury, damage to equipment or damage to the environment.



Risk of fire by igniting flammable material.



Risk of coming into contact with electricity.



Beware of Electrostatic Discharge (ESD). Electrostatic precautions must be used:

- Switch off the machine.
- Wear a wristband connected to ground.
- Avoid wearing clothing that can build up electrostatic voltages.
- Use ESD protective bags to transport PCBs.
- Only place PCBs on a mat made from a material which will dissipate electrostatic voltages and which is connected to ground.

HEALTH AND SAFETY



Eye protection must be worn.



Protective clothing must be worn. Use adequate protective gloves. Consult the relevant Safety Data Sheet (SDS).



Disconnect power before carrying out maintenance or repair.






Connect an earth terminal from the product to an appropriate ground source.



Read the manual before doing this procedure.

PRODUCT/BATTERY END OF LIFE

| WARNING Flammable material. Risk of fire or explosion. | |
|--|---|
|   | Do not dispose of the battery in a fire, hot oven, by mechanically crushing or cutting. Obey local waste regulations when disposing of batteries. |
| | Do not store or leave the battery in high or low extremes of temperature. |
| | Do not store or leave the battery in a location that is subject to low air pressure at high altitudes. |
| CAUTION Hazardous Material. Risk of damage to equipment and environment. | |
|  | The battery is not removable. If the battery needs replacement, replace the PCB that the battery is installed on. Obey local waste regulations when disposing of the battery and PCB. |

Recycling information in accordance with the WEEE and Battery Directives



Product Mark



Battery Mark

European Union Only

The product/battery is marked with one of the above recycling symbols. It indicates that at the end of life the product/battery, you should dispose of it separately at an appropriate collection point and not place it in the normal domestic waste stream.


USA STATE OF CALIFORNIA BATTERY STATEMENT

Perchlorate Material - special handling may apply.

See www.dtsc.ca.gov/hazardouswaste/perchlorate

INKS AND FLUIDS INFORMATION

Domino supplies Safety Data Sheets (SDS) giving specific safety information for each of its ink, make-up and wash fluids. Safety Data Sheets can be found on the MSDS section of the Domino website. There are also warnings on each container. The following are general basic requirements:

| WARNING | Flammable Material. Risk of Fire. |
|---|--|
|  | <p>Do not install or operate the printer in closed sealed rooms or cabinets.</p> <p>Install and operate the printer in a well ventilated environment. Insufficient ventilation may cause an accumulation of flammable vapour.</p> |

Basic Requirements

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

- Proper standards of industrial practice relating to cleanliness and tidiness must be maintained.
- Inks and their containers must be stored and handled with care.
- Do not smoke or allow naked flames (or other sources of ignition) in the vicinity of any inks or solvents as this is highly dangerous.
- All who come into contact with inks must be properly instructed in their use.

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

- Contact with the mouth must be avoided. Therefore eating, drinking or smoking, or any personal habits or actions which may transfer ink to the mouth, must be avoided.
- Contact with the eyes must be avoided. Suitable eye protection must always be worn whenever there is any risk of splashing or misting. If ink does get into the eyes, first aid treatment is to flood the affected eye for 15 minutes with saline solution, (or clean water if saline solution is not available), taking care not to allow the water to run into an unaffected eye. Medical aid must be obtained immediately.
- Most inks contain solvents which may injure the skin. Good working practice must always be employed and risk assessments carried out. Safety Data Sheets are available that give advice on personal protective equipment. Most gloves only offer limited and short term exposure protection and must be changed after any splashing and on a frequent basis.
- Many inks contain materials which vaporise easily and can be inhaled. Good ventilation is necessary.
- Any used cleaning materials, e.g. rags, paper wipes, are a potential fire hazard. They must be collected for safe disposal after use. After exposure to ink, all possible traces must be washed off as soon as possible at the nearest washing facility.
- It is possible to control the printer remotely. If operated in this manner it is vital that the remote UI is disconnected before carrying out any cleaning or maintenance on the printer.

Storage

Printing inks must be stored in well-ventilated buildings, in areas set aside for the purpose and chosen for safety in case of fire. All fluids must be stored in accordance with local regulations.

Fire Risk

Observe all warnings given on the machine and the following safety instructions.

For an electrical fire, do not use water.

If there has been an accumulation of dried ink, do not use metal scrapers to remove it, as they can produce sparks.

Fire risk is a most important consideration where printing inks are stored and used. The degree of fire hazard will vary considerably from one type of ink or wash to another.

Water-based inks will not burn, although inks based on water-alcohol mixtures may burn if there is sufficient alcohol present.




Prolonged exposure of water-based systems to high temperatures may evaporate the water to give a flammable residue.

Solvent-based inks offer a greater degree of hazard depending on the particular solvent or solvent combination. When there is a particular hazard the appropriate information is given on the SDS.

The printers place small electrostatic charges on the ink drops used for printing. In most circumstances, such as when they arrive at the print surface, these electrostatic charges are either conducted away or cannot accumulate. However, if the printer is ever operated in a way that allows it to print into a beaker or container, it is essential that this container is made of conducting material and is securely connected to ground/earth. The electrostatic charges will then be safely conducted to ground/earth.

If there is a fire, there is a likelihood that dangerous fumes will arise from printing inks. For this reason ink must be stored where it can be reached quickly by the fire fighting service, and where it will not spread beyond the store.

Spillages and Disposal

| WARNING | | Flammable Material. Risk of Fire. |
|---|--|--|
|   | | <p>Do not allow the ink to dry or allow any build-up of dried ink spills.</p> <p>Clean up all ink spillages immediately. Some dried inks are highly flammable.</p> |
| WARNING | | Unsealed Container. Risk of Fluid Spill. |
|  | | <p>Do not tip or overfill unsealed fluid containers.</p> <p>Wash stations and beakers are unsealed containers. A wash station or a beaker will spill fluid or ink, if it is tipped over or if it is overfilled.</p> |

Spillages must be cleaned up as soon as possible with the appropriate solvent materials and with regard to the safety of personnel. Care must be taken to prevent spillages or residue from cleaning up entering drains or sewage systems.

Inks and associated fluids are materials that conduct electricity. Therefore, the power to the controller must be switched off while spillages are being cleaned up.

Printing inks and associated fluids must not be treated as ordinary waste. They must be disposed of using approved methods according to local regulations.





ELECTRO-STATIC DISCHARGE

To avoid static discharge from production line equipment, the equipment and everything on it must be grounded correctly. While it is not Domino's responsibility to maintain the customer's equipment, the customer must be aware of the importance of grounding. At the time of installation of the printer, the Domino (or Domino distributor) technician should ensure that the line the printer is installed on is appropriately grounded. This means that all metallic items within 12 inches (300mm) of the print head location must be securely grounded. This should be checked with respect to the print head chassis ground using an Ohm Meter, DVM or another suitable device. It is essential that grounding is checked periodically and that if the printer is relocated to a different production line, then the new production line is properly grounded. Additional static dissipating devices, such as static brushes on the line, etc. are recommended.

OPERATION

For safe operation of the printer, follow all instructions given in this product manual.

Safety may be impaired if the product is used in a manner not specified by the manufacturer.

| WARNING | Pressurised Ink System. Risk of injury. |
|---|--|
|   | <p>Before removing the ITM, read the ITM replacement procedure. See ITM Replacement on page 248.</p> <p>Do not remove the ITM, unless you have read and understood the procedure.</p> <p>During normal operation, the ink system is pressurised. If the ITM is removed before de-pressurising the ink system, ink may spray out of the ink system and injure personnel.</p> |
| WARNING | Electricity. Risk of Injury. |
|   | <p>Do not open the printer's electronics compartment.</p> <p>High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |

PART 2 SYSTEM DESCRIPTION

GENERAL

This Product Manual provides:

- A basic introduction of the Domino Ax-Series
- Details of the user interface
- Instruction for label creation
- Preventative maintenance procedures
- Fault finding and diagnosis
- Details on updating the software.

Only engineers trained and certified by Domino should carry out repairs. Genuine Domino parts should always be used to ensure quality and performance.

DESCRIPTION

The Domino Ax-Series is a range of Continuous Ink Jet printers intended for printing fixed and variable data on products on manufacturing production lines. For specific details, contact your local support office.

Domino Ax-Series printers and TouchPanels are intended for indoor use only.

Each Ax-Series consists of:

- A print head and flexible conduit connecting it to a cabinet
- A cabinet containing the ink supply and electronic control systems
- A user interface for operator interaction.

Ax130i Printer





Note Ax130i is not available in all regions.

The Ax130i features an IP54 cabinet with integrated TouchScreen. The Ax130i has a Domino Design ink system, i-Techx advanced electronics system and user interface.

It is available with an i-Pulse2 print head, 60 micron ink jet nozzle and a 3 metre print head conduit.

To maintain optimum performance, the Ax130i only requires the colour coded consumables to be replenished. Consumable items such as the air filter, make-up filter, ink cartridge, make-up cartridges and ITM are colour coded yellow for easy identification and user convenience.

| WARNING | |
|---|--|
| Pressurised Ink System. Risk of injury. | |
|   | <p>Before removing the ITM, read the ITM replacement procedure. See ITM Replacement on page 248.</p> <p>Do not remove the ITM, unless you have read and understood the procedure.</p> <p>During normal operation, the ink system is pressurised. If the ITM is removed before de-pressurising the ink system, ink may spray out of the ink system and injure personnel.</p> |

The i-Techx system monitors ink and make-up consumption to calculate when the consumable items are due for replacement. User prompts for consumable replacement are displayed on the TouchScreen user interface.

Note Consumable replacement intervals vary according to use, installation environment and ink type. Contact Domino for details.



Ax150i Printer



The Ax150i features an IP55 cabinet with integrated TouchScreen, Domino Design ink system, i-Techx advanced electronics system and user interface.

The Ax150i is available with an i-Pulse print head, 60 micron ink jet nozzle and a 3 metre print head conduit.

To maintain optimum performance, the Ax150i only requires the colour coded consumables to be replenished. Consumable items such as the air filter, make-up filter, ink cartridge, make-up cartridges and ITM are colour coded yellow for easy identification and user convenience.

| WARNING | | Pressurised Ink System. Risk of injury. |
|---|--|--|
|   | | <p>Before removing the ITM, read the ITM replacement procedure. See ITM Replacement on page 248.</p> |
| | | <p>Do not remove the ITM, unless you have read and understood the procedure.</p> <p>During normal operation, the ink system is pressurised. If the ITM is removed before de-pressurising the ink system, ink may spray out of the ink system and injure personnel.</p> |

The i-Techx system monitors ink and make-up consumption to calculate when the consumable items are due for replacement. User prompts for consumable replacement are displayed on the TouchScreen user interface and on LEDs on the front of the cabinet.

| | |
|------|--|
| Note | Consumable replacement intervals vary according to use, installation environment and ink type. Contact Domino for details. |
|------|--|

Ax350i Printer





The Ax350i is a highly configurable printer featuring a stackable IP55 cabinet design with an IP66 electronics enclosure, a range of TouchScreen options, Domino Design ink system, i-Techx advanced electronics and user interface and an i-Pulse, i-Pulse Duo or i-Pulse RS print head.

The Ax350i can be controlled using a Remote TouchScreen 7" or a Remote TouchScreen 10". The TouchScreen can be mounted on top of the stainless steel cabinet. The TouchScreen can also be mounted using a VESA 75 standard mounting, anywhere within range of the connecting cable.

Additional printer cabinets may be stacked and controlled via one TouchScreen.

The Ax350i printer can use a wide variety of inks. This gives the Ax350i flexibility to print on a wide range of print surfaces. Where appropriate, a heavy duty ink system is fitted which is constructed of materials resilient to inks with corrosive properties, this enables reliable operation and minimal down time.

To maintain optimum performance, the Ax350i only requires the colour coded consumables to be replenished. Consumable items such as the air filter, make-up filter, ink cartridge, make-up cartridges and ITM are colour coded yellow for easy identification and user convenience.

| WARNING Pressurised Ink System. Risk of injury. | |
|---|--|
|   | <p>Before removing the ITM, read the ITM replacement procedure. See ITM Replacement on page 248.</p> <p>Do not remove the ITM, unless you have read and understood the procedure.</p> <p>During normal operation, the ink system is pressurised. If the ITM is removed before de-pressurising the ink system, ink may spray out of the ink system and injure personnel.</p> |

The i-Techx system monitors ink and make-up consumption to calculate when the consumable items are due for replacement. User prompts for consumable replacement are displayed on the TouchScreen user interface and on LEDs on the front of the cabinet.

| | |
|------|--|
| Note | Consumable replacement intervals vary according to use, installation environment and ink type. Contact Domino for details. |
|------|--|

Ax550i Printer



The Ax550i is visually similar to the Ax350i. However, the cabinet of the Ax550i is constructed from a higher grade of stainless steel (316 Grade) for use in more corrosive operating environments.

Note Consumable replacement intervals vary according to use, installation environment and ink type. Contact Domino for details.

WARNING

Pressurised Ink System. Risk of injury.



Before removing the ITM, read the ITM replacement procedure. See [ITM Replacement on page 248](#).

Do not remove the ITM, unless you have read and understood the procedure.

During normal operation, the ink system is pressurised. If the ITM is removed before de-pressurising the ink system, ink may spray out of the ink system and injure personnel.

PRINTER CONFIGURATION LABELS

External Configuration Label






The label illustrated below is an example of the configuration label which is located on the rear of all Ax-Series printers.



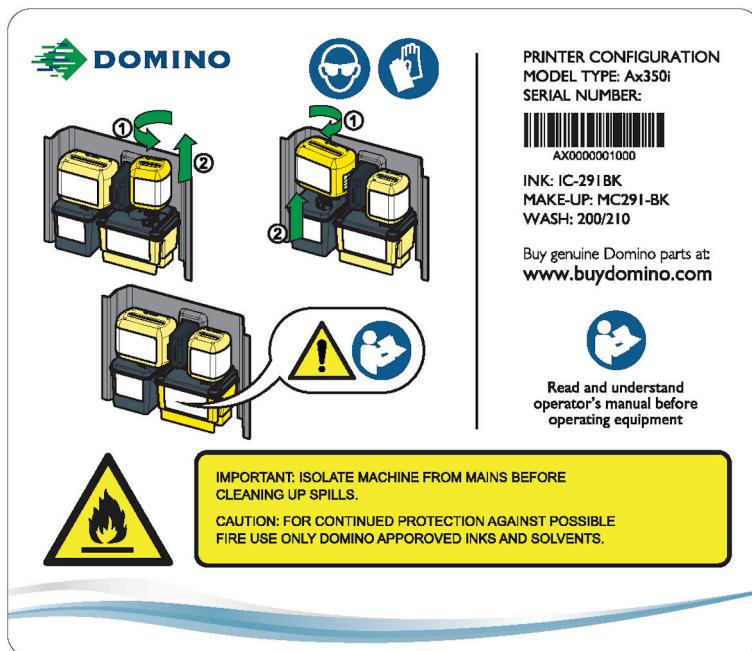
The external configuration label contains the following information:

- The product model name
- The product serial number
- The name, address and contact details of the manufacturer
- IP rating of the product
- IP rating of the electronics compartment
- Power supply requirements
- FCC notice
- Local conformance information
- Warning information.

Internal Configuration Label

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|--|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage.</p> <p>Refer to Safety Data Sheet.</p> |
| WARNING Pressurised Ink System. Risk of injury. | |
|   | <p>Before removing the ITM, read the ITM replacement procedure. See ITM Replacement on page 248.</p> <p>Do not remove the ITM, unless you have read and understood the procedure.</p> <p>During normal operation, the ink system is pressurised. If the ITM is removed before de-pressurising the ink system, ink may spray out of the ink system and injure personnel.</p> |

The label illustrated below is an example of the internal configuration label which is located inside the front door of all Ax-Series printers.



The internal configuration label contains the following information:

- The product model name
- The product serial number
- The ink type which the printer is configured to use
- The make-up type which the printer is configured to use
- The wash type which should be used for cleaning
- The address of the BuyDomino website

SYSTEM DESCRIPTION

- Ink and make-up cartridge removal instructions
- Warning information.

AX130i SPECIFICATION

Note Ax130i is not available in all regions.

Ax130i Cabinet

| | |
|------------------|--|
| Standard Finish: | Nylon front door, 304 grade brushed stainless steel cabinet |
| IP Rating: | IP54 |
| Dimensions: | Width: 400 mm (15.75 ") Depth: 393 mm (15.50 ") Height: 373 mm (14.70 ") |
| Weight (dry): | 16 kg (35.3 lb) |
| Control Panel: | 7 inch TouchScreen and polyester membrane touch button |

Ax130i Electrical Supply

| | |
|-----------------------|---|
| Electrical Supply: | 100-240 V, AC, 50-60 Hz (nominal), 4 A, single phase auto ranging |
| Power Consumption: | 40 Watt (idle) 80 Watt (printing) |
| Overvoltage Category: | CAT II |

Ax130i External Connections

| | |
|---|---|
| Power Connector: | 3-Way Plug, cable supplied |
| Product Detect/Shaft Encoder Connector: | 8-Way Socket x2 Maximum 0.36 A (shared between both sockets) |
| Beacon Connector: | 5-Way Socket |
| Alarm Connector: | 7-Way Socket, 1 A, 30 V maximum |
| USB Connector: | USB Type A (located inside the front door) |

Ax130i Ink System

| | |
|-----------------------------|------------------------------|
| ITM Type 2 Capacity: | 1222 ml maximum |
| Make-up Module Capacity: | 888 ml maximum |
| Ink Cartridge Capacity: | 825 ml |
| Make-up Cartridge Capacity: | 1200 ml |
| Ink Viscosity Control: | Automatic Viscometer |
| Ink Bleed Control: | Automatic Start-Up/Shut-Down |

Ax130i Environment

| | |
|---|--|
| Temperature Range (Working): | -5 °C to +45 °C (-42 °F to +112 °F) |
| Temperature Range (Storage): | -20 °C to +60 °C (-4 °F to +140 °F) (machine dry - storage, wet dependent upon fluids) |
| Humidity: | 0-90% RH (non-condensing) |
| Acoustic Noise Level: | Not more than 70 dBA |
| Pollution Degree of Intended Environment: | Degree 2 |
| Maximum Altitude of Operation: | < 2000 m |
| Intended Environment: | Indoors only |

Ax130i Intentional Transmitter (QMM)

| | |
|---------------------|-----------|
| RF Frequency (QMM): | 13.56 MHz |
| RF Power (QMM) | 62 µW |

Ax130i i-Pulse2 Print Head

| | |
|--|---|
| Standard Finish: | Chassis: Stainless Steel Wire box: Stainless Steel Holster: Stainless Steel |
| Dimensions: | Width: 46 mm (1.8 ") Depth: 49 mm (1.9 ") Height including conduit retaining nut: 287 mm (11.29 ") Operating height with conduit at 90 degrees: 364 mm (14.33 ") Weight including 3 m conduit: 1.5 kg (2.2 lbs) |
| Conduit Length: | 3 m (10 ft) |
| Conduit Minimum Inside Bend Radius: | 65 mm (2.55 ") |
| Nozzle Size: | 60 μ |
| Recommended Distance from Print Surface: | 8 mm (0.31 ") |
| Working Height Relative to Cabinet Base: | ± 1 m |

AX150i SPECIFICATION

Ax150i Cabinet

| | |
|------------------|--|
| Standard Finish: | Nylon front door, 304 grade brushed stainless steel cabinet |
| IP Rating: | Designed to IP55 |
| Dimensions: | Width: 400 mm (15.75 ") Depth: 393 mm (15.50 ") Height: 373 mm (14.70 ") |
| Weight (dry): | 16 kg (35.3 lb) |
| Control Panel: | 7 inch TouchScreen and polyester membrane touch button |

Ax150i Electrical Supply

| | |
|-----------------------|---|
| Electrical Supply: | 100-240 V, AC, 50-60 Hz (nominal), 4 A, single phase auto ranging |
| Power Consumption: | 40 Watt (idle) 80 Watt (printing) |
| Overvoltage Category: | CAT II |

Ax150i Standard External Connections

Note Depending on your region, standard connections may be different.

| | |
|---|--|
| Product Detect/Shaft Encoder Connector: | 8-Way Socket x2 Maximum 0.36 A (shared between both sockets) |
| Power Connector | 3-Way Plug, cable supplied |
| Status Pack: | Beacon Connector: 5-Way Socket Alarm Connector: 7-Way Socket, 1 A, 30 V maximum |
| Comms Pack: | Ethernet Port USB Port: Type A |

Ax150i Optional External Connections

Note Depending on your region, optional connections may be different.

| | |
|-------------------|--------------------------------------|
| RS232 Pack: | Serial (RS232) Connector: 8-Way Plug |
| GPIO Pack | Basic GPIO Port: 14-Way Socket |
| SafeGuard: | DCI Port: 7-Way Socket |

Ax150i Ink System

| | |
|---|------------------------------|
| ITM Type 2 Capacity: | 1222 ml maximum |
| ITM Type 3 (for heavy duty ink system) Capacity: | 1118 ml maximum |
| Make-up Module Capacity: | 888 ml maximum |
| Ink Cartridge Capacity: | 825 ml |
| Ink Cartridge (for heavy duty ink system) Capacity: | 555 ml |
| Make-up Cartridge Capacity: | 1200 ml |
| Ink Viscosity Control: | Automatic Viscometer |
| Ink Bleed Control: | Automatic Start-Up/Shut-Down |

Ax150i Environment

| | |
|---|--|
| Temperature Range (Working): | -5 °C to +45 °C (-42 °F to +112 °F) |
| Temperature Range (Storage): | -20 °C to +60 °C (-4 °F to +140 °F) (machine dry - storage, wet dependent upon fluids) |
| Humidity: | 0-90% RH (non-condensing) |
| Acoustic Noise Level: | Not more than 70 dBA |
| Pollution Degree of Intended Environment: | Degree 2 |
| Maximum Altitude of Operation: | < 2000 m |
| Intended Environment: | Indoors only |

Ax150i Intentional Transmitter (QMM)

| | |
|---------------------|------------|
| RF Frequency (QMM): | 13.56 MHz |
| RF Power (QMM) | 62 μ W |

Ax150i i-Pulse Print Head

| | |
|--|---|
| Standard Finish: | Chassis: Stainless Steel Wire box: Acetal Holster: Polymer (PTFE) coated aluminium |
| Dimensions: | Width: 50.3 mm (1.98 ") Depth: 50.3 mm (1.98 ") Height including conduit retaining nut: 243 mm (9.57 ") Operating height with conduit at 90 degrees: 320 mm (12.6 ") Weight including 3 m conduit: 1.8 kg (4 lbs) |
| Conduit Length: | 3 m (10 ft) |
| Conduit Minimum Inside Bend Radius: | 65 mm (2.55 ") |
| Nozzle Size: | 60 μ |
| Recommended Distance from Print Surface: | 8 mm (0.31 ") |
| Working Height Relative to Cabinet Base: | ± 1 m |

AX350I/AX550I SPECIFICATION

Ax350i/Ax550i Cabinet

| | |
|-------------------|---|
| Standard Finish: | Ax350i: 304 grade stainless steel Ax550i: 316 grade stainless steel |
| IP Rating: | Overall: IP55 (Electronics enclosure designed to IP66) |
| Dimensions: | Width: 430 mm (16.9 ") Depth: 381 mm (15.0 ") Height: 311 mm (16.2 ") |
| Cabinet Controls: | Buttons for Standby, Start/Stop, Single Print and Alerts |
| Weight (dry): | 22 kg (48.5 lb) |

Ax350i/Ax550i Electrical Supply

| | |
|-----------------------|---|
| Electrical Supply: | 100-240 V, AC, 50-60 Hz (nominal), 4 A, single phase auto ranging |
| Power Consumption: | 40 Watt (idle) 80 Watt (printing) |
| Overvoltage Category: | CAT II |

Ax350i/Ax550i Standard External Connections

Note Depending on your region, standard connections may be different.

| | |
|---|--|
| Interface Communication: | 1 x Non standard DVI connection providing 24 V, DC, 500 mA |
| Product Detect/Shaft Encoder Connector: | 8-Way Socket x 2 Maximum 0.36 A (shared between both sockets) |
| Power Connector | 3-Way Plug, cable supplied |
| Status Pack: | Beacon Connector: 5-Way Socket Alarm Connector: 7-Way Socket, 1 A, 30 V maximum |
| Comms Pack: | Ethernet Port USB Port: Type A |

Ax350i/Ax550i Optional External Connections

Note Depending on your region, optional connections may be different.

| | |
|----------------------|--|
| Extended Comms Pack: | Powered HMI Port: 7-Way Socket USB Port: Type A |
| Extended IO Pack: | User Port: 25-Way D-Sub Socket User Port: 37-Way D-Sub Socket |
| RS232 Pack: | Serial (RS232) Connector: 8-Way Plug |
| GPIO Pack | Basic GPIO Port: 14-Way Socket |
| SafeGuard: | DCI Port: 7-Way Socket |

Ax350i/Ax550i Ink System

| | |
|---|------------------------------|
| ITM Type 2 Capacity: | 1222 ml maximum |
| ITM Type 3 (for heavy duty ink system) Capacity: | 1118 ml maximum |
| Make-up Module Capacity: | 888 ml maximum |
| Ink Cartridge Capacity: | 825 ml |
| Ink Cartridge (for heavy duty ink system) Capacity: | 555 ml |
| Make-up Cartridge Capacity: | 1200 ml |
| Ink Viscosity Control: | Automatic Viscometer |
| Ink Bleed Control: | Automatic Start-Up/Shut-Down |

Ax350i/Ax550i Environment

| | |
|---|--|
| Temperature Range (Working): | -5 °C to +45 °C (-42 °F to +112 °F) |
| Temperature Range (Storage): | -20 °C to +60 °C (-4 °F to +140 °F) (machine dry - storage, wet dependent upon fluids) |
| Humidity: | 0-90% RH (non-condensing) |
| Acoustic Noise Level: | Not more than 70 dBA |
| Pollution Degree of Intended Environment: | Degree 2 |
| Maximum Altitude of Operation: | < 2000 m |
| Intended Environment: | Indoors only |

Ax350i/Ax550i Intentional Transmitter (QMM)

| | |
|---------------------|------------|
| RF Frequency (QMM): | 13.56 MHz |
| RF Power (QMM) | 62 μ W |

Ax350i/Ax550i i-Pulse Print Head

| | |
|--|---|
| Standard Finish: | Chassis: Stainless Steel Wire box: Acetal Holster: Polymer (PTFE) coated aluminium |
| Dimensions: | Width: 50.3 mm (1.98 ") Depth: 50.3 mm (1.98 ") Height including conduit retaining nut: 243 mm (9.57 ") Operating height with conduit at 90 degrees: 320 mm (12.6 ") Weight including 3 m conduit: 1.8 kg (4 lbs) |
| Conduit Minimum Inside Bend Radius: | 65 mm (2.55 ") |
| Conduit Length and Nozzle Size: | 3 m (10 ft) conduit with 40, 50, 60 or 75 μ nozzle 4 m (13 ft) conduit with 40 or 50 μ nozzle 6 m (20 ft) conduit with 60 or 75 μ nozzle |
| Recommended Distance from Print Surface: | 75 μ nozzle: 14 mm (0.55 ") 60 μ nozzle: 8 mm (0.31 ") 50 μ nozzle: 6 mm (0.23 ") 40 μ nozzle: 4 mm (0.15 ") |
| Working Height Relative to Cabinet Base: | 3 m conduit: ± 1 m 4 m conduit: ± 1 m 6 m conduit: ± 3 m |

Ax350i/Ax550i i-Pulse V90 Print Head

| | |
|--|--|
| Standard Finish: | Chassis: Stainless Steel Wire box: Acetal Holster: Polymer (PTFE) coated aluminium |
| Dimensions: | Width: 185 mm (3.34 ") Depth (Max): 50 mm (1.96 ") Height including conduit retaining nut: 160.5 mm (6.31 ") Weight including 3 m conduit: 1.8 kg (4 lbs) |
| Conduit Length: | 3 m (10 ft) or 6 m (20 ft) |
| Conduit Minimum Inside Bend Radius: | 65 mm (2.55 ") |
| Nozzle Size: | 60 or 75 μ |
| Recommended Distance from Print Surface: | 75 μ nozzle: 14 mm (0.55 ") 60 μ nozzle: 8 mm (0.31 ") |
| Working Height Relative to Cabinet Base: | 3 m conduit: ± 1 m 6 m conduit: ± 3 m |

Ax350i/Ax550i i-Pulse H90 Print Head

| | |
|--|--|
| Standard Finish: | Chassis: Stainless Steel Wire box: Acetal Holster: Polymer (PTFE) coated aluminium |
| Dimensions: | Width: 148.7 mm (5.85 ") Depth (Max): 50 mm (1.96 ") Height including conduit retaining nut: 159.4 mm (6.27 ") Weight including 3 m conduit: 1.8 kg (4 lbs) |
| Conduit Length: | 3 m (10 ft) or 6 m (20 ft) |
| Conduit Minimum Inside Bend Radius: | 65 mm (2.55 ") |
| Nozzle Size: | 60 or 75 μ |
| Recommended Distance from Print Surface: | 75 μ nozzle: 14 mm (0.55 ") 60 μ nozzle: 8 mm (0.31 ") |
| Working Height Relative to Cabinet Base: | 3 m conduit: ± 1 m 6 m conduit: ± 3 m |

Ax350i/Ax550i i-Pulse Duo Print Head

| | |
|--|--|
| Standard Finish: | Chassis: Stainless Steel Wire box: Moulded nylon Holster: Plated aluminium |
| Dimensions: | Width: 57 mm (2.24 ") Depth: 53 mm (2.01 ") Height: 255 mm (10 ") Weight including 3 m conduit: 2.8 kg (6.17 lbs) |
| Conduit Length: | 3 m (10 ft) or 6 m (20 ft) |
| Conduit Minimum Inside Bend Radius: | 65 mm (2.55 ") |
| Nozzle Size: | 60 or 75 μ |
| Recommended Distance from Print Surface: | 75 μ nozzle: 14 mm (0.55 ") 60 μ nozzle: 8 mm (0.31 ") |
| Working Height Relative to Cabinet Base: | 3 m conduit: ± 1 m 6 m conduit: ± 3 m |

Ax350i/Ax550i i-Pulse RS Print Head

| | |
|--|--|
| Standard Finish: | Stainless Steel |
| Dimensions: | Width: 40 mm (1.57 ") Depth: 40 mm (1.57 ") Height (60 μ nozzle): 243 mm (9.56 ") Height (75 μ nozzle): 252 mm (9.92 ") Weight including 3 m conduit: 1.8 kg (4 lbs) |
| Conduit Length: | 3 m (10 ft) or 6 m (20 ft) |
| Conduit Minimum Inside Bend Radius: | Fixed installation: 70 mm (2.75 ") Continuous flex installation: 150 mm (5.90 ") |
| Nozzle Size: | 60 or 75 μ |
| Recommended Distance from Print Surface: | 75 μ nozzle: 14 mm (0.55 ") 60 μ nozzle: 8 mm (0.31 ") |
| Working Height Relative to Cabinet Base: | 3 m conduit: ± 1 m 6 m conduit: ± 3 m |

USER INTERFACE SPECIFICATION

Remote TouchScreen 10" (Ax350i/Ax550i Only)

| | |
|---|--|
| Standard Finish: | Cast aluminium (rear), nylon plastic (front) |
| Mounting: | Via angled bracket to cabinet top VESA 75 standard mounting |
| Display: | 10.4 inch SVGA full colour touch screen |
| Dimensions: | Width: 307 mm (12.1 ") Height: 232 mm (9.1 ") Depth: 75 mm (3 ") |
| Weight: | 2.5 kg (5.5 lb) |
| IP Rating: | IP65 Usable in wet locations (resistant to water jets) |
| Temperature: | 5 - 45 °C |
| Humidity: | 10 - 90% non-condensing |
| Power Supply: | 24 V, DC, 15 W, 500 mA, over non standard DVI Note The power supply contains "reinforced" insulation. |
| Mains Voltage Deviation: | -10% to +6% |
| Overvoltage Category: | CAT II |
| Connectivity: | Non standard DVI cable to rear of printer |
| Data Transfer: | 2 x USB Type A |
| Pollution Degree of Intended Environment: | Degree 2 |
| Maximum Altitude of Operation: | < 2000 m |
| Intended Environment: | Indoors only |

Remote TouchScreen 7" (Ax350i/Ax550i Only)





| | |
|---|--|
| Standard Finish: | Nylon plastic |
| Mounting: | Via angled bracket to cabinet top VESA 75 standard mounting |
| Display: | 7 inch WVGA full colour touch screen |
| Dimensions: | Width: 245 mm (9.6 ") Height: 160 mm (6.3 ") Depth: 50 mm (2 ") |
| Weight: | 0.75 kg (1.65 lb) |
| IP Rating: | IP55 Usable in wet locations (resistant to water jets) |
| Temperature: | 5 - 45 °C |
| Humidity: | 10 - 90% non-condensing |
| Power Supply: | 24 V, DC, 12 W, 500 mA, over non standard DVI Note The power supply contains "reinforced" insulation. |
| Mains Voltage Deviation: | -10% to +6% |
| Overvoltage Category: | CAT II |
| Connectivity: | Non standard DVI cable to rear of printer |
| Data Transfer: | 2 x USB Type A |
| Pollution Degree of Intended Environment: | Degree 2 |
| Maximum Altitude of Operation: | < 2000 m |
| Intended Environment: | Indoors only |

PRINTER CONTROL

Cabinet Buttons







There are hardware buttons on the printer cabinet as illustrated below. It is necessary to press the buttons for at least 2-3 seconds as a precaution against accidental use. The cabinet buttons also carry an indicator light.

All other functions are available using the QuickStep interface on the TouchScreen.


| Cabinet Button | Explanation |
|--|---|
| Standby Button  | <p>Note This button does not disconnect the printer from the electrical power supply.</p> <p>The standby button is pressed to start up the printer and enter the Idle state. In the Idle state the printer's ink jet is off and the printer will not print. However, the user interface can still be used.</p> <p>The standby button can also be pressed for two to three seconds to shut down the printer.</p> <p>See Start-up on page 160.</p> |
| Start/Stop Button  | <p>Note This feature is not available for Ax130i.</p> <p>The start/stop button is pressed to start up the printer and enter the Ready state. In the Ready state the ink jet is running, and the printer is ready to print. If a label is on-line, it will print on receiving a product detect signal.</p> <p>If the button is pressed when in a Ready state, the printer will enter the Idle state. In the Idle state the printer's ink jet is off and the printer will not print. However, the user interface can still be used.</p> <p>See Start-up on page 160.</p> |
| Single Print Button  | <p>Note This feature is not available for Ax130i.</p> <p>The single print button is pressed to produce a single test print of the current label. Typically used to identify what label is being printed when a UI is not present.</p> |
| Alert Button  | <p>Note This feature is not available for Ax130i.</p> <p>The alert button is pressed to display the current list of alerts on the TouchScreen. The alert button also carries two status lights, see Cabinet Status Lights on page 51.</p> |

Cabinet Status Lights

There are a number of status lights on the printer cabinet as illustrated below.

| Cabinet Button | Explanation |
|---|--|
| Printer Off, Power Connected  | <p>Note This feature is not available for Ax130i.</p> <p>The red light on the standby button will illuminate to indicate that the printer is connected to a power supply, but the printer is not turned on.</p> |
| Start Up  | <p>Note The red light is not available for Ax130i.</p> <p>The red light on the standby button will illuminate and the green light on the standby button will flash to indicate that the printer is starting up.</p> |
| Printer On  | <p>The green light on the standby button will illuminate to indicate that the printer is on.</p> |
| Red Alert  | <p>Note This feature is not available for Ax130i.</p> <p>The red alert light will illuminate to indicate a red alert. A red alert occurs when the printer has a fault which causes printing to stop. If a TouchScreen is connected to the printer, a description of the alert will be displayed on the TouchScreen's status tab.</p> |
| Amber Alert  | <p>Note This feature is not available for Ax130i.</p> <p>The amber alert light will illuminate to indicate an amber alert. An amber alert occurs when the printer has a fault which requires attention. If a TouchScreen is connected to the printer, a description of the alert will be displayed on the TouchScreens status tab.</p> |
| Make-up Level Alert  | <p>Note This feature is not available for Ax130i.</p> <p>If the make-up level is ok, the light will be off.</p> <p>The make-up light will illuminate to indicate when the make-up level is low, and the cartridge requires replacement.</p> |

SYSTEM DESCRIPTION

| Cabinet Button | Explanation |
|--|---|
| <p data-bbox="169 237 363 271">Ink Level Alert</p>  | <p data-bbox="432 237 1066 271">Note This feature is not available for Ax130i.</p> <p data-bbox="432 282 959 315">If the ink level is ok, the light will be off.</p> <p data-bbox="432 327 1374 394">The ink light will illuminate to indicate when the ink level is low, and the cartridge requires replacement.</p> |

QMM (Quality Management Module) Status Lights

The printer contains a QMM (Quality Management Module) to read and write data to RFID (Radio Frequency Identification) tags on the make-up cartridge, ink cartridge and ITM. This enables the printer to alert the user when the ITM, ink or make-up cartridge need to be replaced to maintain reliable and efficient printer operation. The printer will also display an alert if the wrong ink or make-up or ITM type is inserted.

In addition, there are 3 status lights on the QMM inside the printer cabinet. The colour of each light indicates whether the RFID tags on the consumables have been correctly read and identified.

The QMM status lights are shown below.



QMM Status Light Identification:

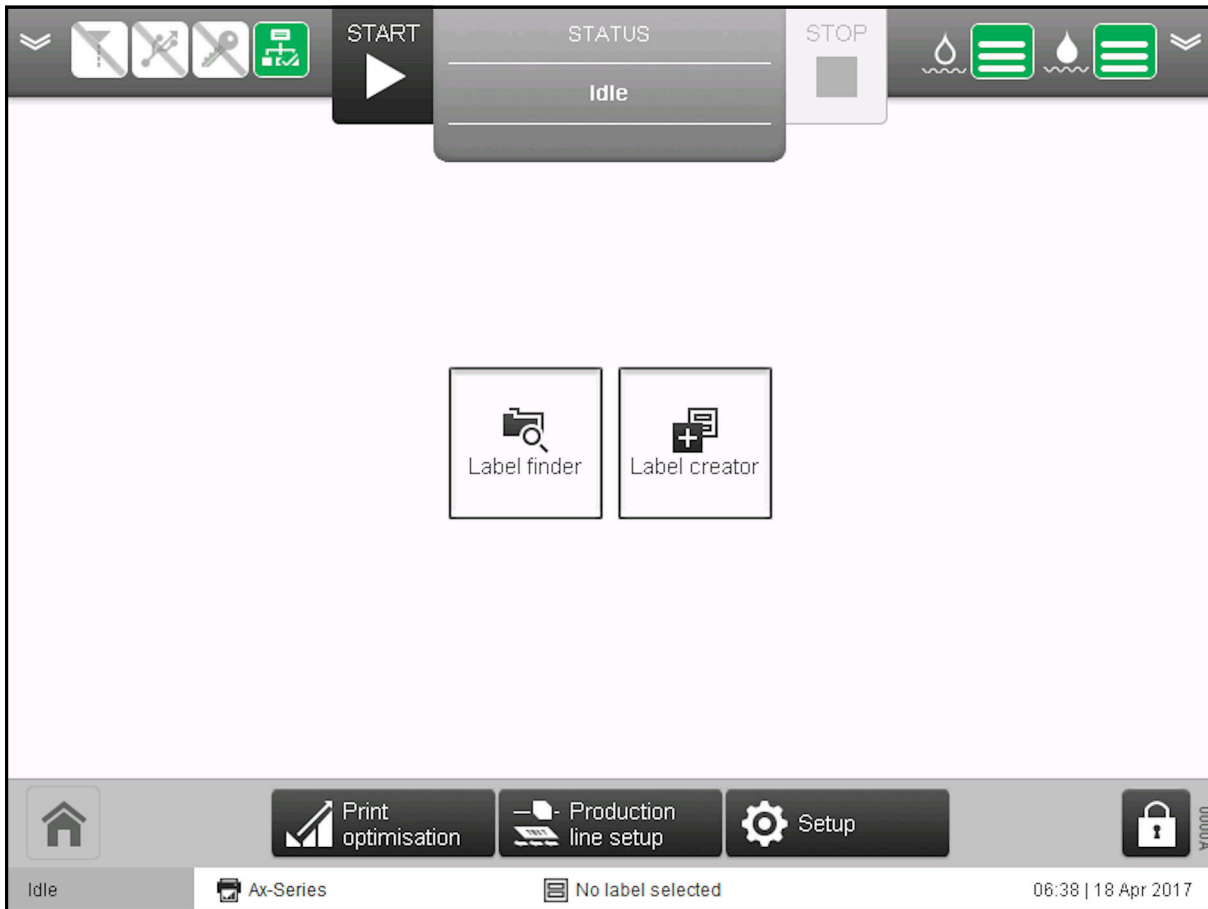
| # | Description |
|---|---|
| 1 | Make-up Cartridge QMM Connection Status |
| 2 | Ink Cartridge QMM Connection Status |
| 3 | ITM QMM Connection Status |

QMM Status Light Colour Meaning:

| Colour | Description |
|----------------|---|
| Red | The RFID tag has been read and a fault has been detected. An alert will be displayed on the QuickStep status tab to explain the fault. |
| Amber | The RFID tag has not been read, either because an RFID tag is not present, or the RFID tag is faulty. An alert will also be displayed on the QuickStep status tab to explain the fault. |
| Flashing Amber | The QMM is in the process of reading the RFID tag. |
| Green | The RFID tag has been correctly read and identified. |

QuickStep

The QuickStep interface as displayed on the TouchScreen is shown below:


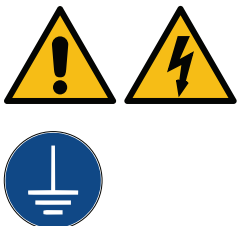

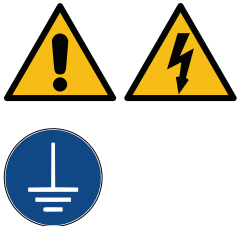


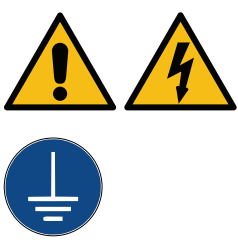

Domino has developed QuickStep to be easy and intuitive to use. Training times, set up times and coding errors are all reduced with QuickStep.

The operation of the printer using QuickStep is described in [OPERATION on page 142](#).

PART 3 INSTALLATION

INTRODUCTION

| | |
|---|---|
| WARNING | Electricity. Risk of Injury. |
|  | <p>Do not open the printer's electronics compartment.</p> <p>High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| WARNING | Electricity. Risk of Injury. |
|  | <p>Make sure that the electrical ground (earth) connection to the printer's electrical mains lead (power supply cable) is common (shared) with any electrical ground connections that are made to the print head mounting bracket or any other printer mounting brackets.</p> <p>If the electrical mains lead and the mounting brackets are not connected to a common ground, the difference in the electrical potential between them may cause a malfunction and injury to personnel.</p> |
| WARNING | Obstacle Hazard. Risk of Injury. |
|  | <p>Do not install the equipment, cables, conduits or accessories in a walkway, or in a location where they may cause an obstacle hazard.</p> <p>If the equipment, cables, conduits or accessories are installed in a walkway, or in location where they may cause an obstacle hazard, injury to personnel may occur.</p> |
| WARNING | Electricity. Risk of Injury. |
|  | <p>Use an earthed mains electrical power supply.</p> <p>The printer is "Class I" equipment as defined in IEC 61140. If the printer is not connected to an earthed mains electrical power supply and a fault occurs, personnel may be injured.</p> |

| WARNING | Electricity. Risk of Injury. |
|---|--|
|  | <p>Re-connect ground (earth) connections before returning the printer to operation, if ground (earth) connections are disconnected at any time.</p> <p>All items in the printer that require connection to ground (earth) have cables for this purpose. If the printer is operated with any of these ground (earth) cables disconnected, injury to personnel may occur.</p> |
| WARNING | Electricity. Risk of Injury. |
|  | <p>Use an H05 RR-F approved mains electrical supply cable.</p> <p>H05 RR-F mains electrical supply cables meet the specified requirements for this printer. If a mains electrical supply cable that does not meet specification H05 RR-F is used, personnel may be injured if a fault occurs.</p> |

Installation of the printer consists of:







- Checking that all items have been delivered
- Installing the printer and its associated equipment
- Preparing the printer for use.

There is a wide range of possible work areas and it is not possible to give specific instructions for each area. The information provided in this document consists of the basic requirements and general information. Ensure that the basic requirements can be met before installing the printer.

PRINTER INSTALLATION

The following is general information for installing the printer in a wide range of working areas.

Cabinet Positioning

| WARNING Lifting Hazard. Risk of injury. | |
|---|--|
|  | <p>Use good manual handling techniques to lift and move the printer cabinet. Use assistance to move or lift heavy objects.</p> <p>The printer cabinet is heavy. Refer to the specification in this manual for specific weights. Bad manual handling techniques may cause personal injury.</p> |
| WARNING Lifting Hazard. Risk of injury. | |
|  | <p>Only lift the printer cabinet from the main metal base. Do not use the printer cabinet door to lift the printer.</p> <p>The printer cabinet door is not a lift point. The door may open and cause personal injury.</p> |
| WARNING Flammable Material. Risk of Fire. | |
|   | <p>Do not install or operate the printer in closed sealed rooms or cabinets.</p> <p>Install and operate the printer in a well ventilated environment. Insufficient ventilation may cause an accumulation of flammable vapour.</p> |
| WARNING Flammable Vapour. Risk of Fire. | |
|   | <p>Make sure that no static or spark generating devices are near to the printer cabinet's vent.</p> <p>Static or spark generating devices may ignite flammable vapour from the printer cabinet's vent.</p> |

This equipment is not suitable for use in locations where children are likely to be present.

The cabinet must be positioned in a location with enough clearance to open the doors and give access to the cabinet's front and rear. Make sure that the printer is electrically isolated from other equipment, except for a normal data interface.

To make sure that the printers fluid management systems are able to operate correctly and to reduce the risk of fluid spills, install the cabinet on a level surface.






The printer must be positioned in an area where the temperatures will remain within +5 °C and +45 °C (42 °F to 112 °F) and the relative humidity must remain within 10% to 90% (non-condensing). The printer draws in and expels cooling air through vents underneath of the cabinet. The air vents must not be obstructed.

To ensure stability and minimise vibration, mount the printer on a Domino Printer Stand with the Domino Stacking Kit. If a Domino Printer Stand is not used, then the printer base must be secured to the mounting surface using M6 mounting bolts. Use spacers to ensure the mounting bushes are flush with the mounting surface.

INSTALLATION

Printer cabinets can be stacked, see [Printer Cabinet Stacking Requirements on page 63](#) for more details.

Conduit and Print Head Positioning

| WARNING Obstacle Hazard. Risk of Injury. | |
|---|---|
|  | <p>Do not install the equipment, cables, conduits or accessories in a walkway, or in a location where they may cause an obstacle hazard.</p> <p>If the equipment, cables, conduits or accessories are installed in a walkway, or in location where they may cause an obstacle hazard, injury to personnel may occur.</p> |
| WARNING Flammable Vapour. Risk of Fire. | |
|  | <p>Make sure that no static or spark generating devices are near to the print head.</p> <p>Static or spark generating devices may ignite flammable vapour from the print head.</p> |
| WARNING Mechanical Stress Hazard. Risk of Injury. | |
|  | <p>Make sure that the print head and conduit are properly supported. Make sure that the conduit is not mechanically stressed.</p> <p>If the conduit becomes mechanically stressed, it may become damaged leading to exposed wires and pipes. Exposed wires and pipes may injure personnel.</p> |
| WARNING Automatic Start-up. Risk of Injury. | |
|  | <p>If the print head is not in the correct position for printing, disable any external input that can start the ink jet or trigger printing.</p> <p>If the print head is not in the correct position for printing when an input to start the ink jet or trigger a print is sent to the printer, injury to personnel may occur.</p> |
| CAUTION G-Force Hazard. Risk of Malfunction. | |
|  | <p>Do not apply a g-force more than 3 g to the print head, if the print head is installed on a traverser.</p> <p>If more than 3 g is applied to the print head, unprinted ink drops will not enter the print head gutter correctly.</p> |

Keep the conduit and print head away from power supply cables and other wiring capable of producing electrical noise. Use the print head mounting bracket supplied with the printer to reduce electrical noise. Keep the conduit and print head as free as possible from vibration. Mount the print head perpendicular to the printing surface.



If it is possible, position the print head to the recommended distance away from the print surface as described in the table below.

| Nozzle Diameter | i-Pulse/i-Pulse RS | i-Pulse2 | i-Pulse Duo (Standard Labels) | i-Pulse Duo (Stitched Labels) |
|-----------------|--------------------|----------|-------------------------------|-------------------------------|
| 75 µ | 14 mm | N/A | 14 mm | 20 mm |

INSTALLATION

| Nozzle Diameter | i-Pulse/i-Pulse RS | i-Pulse2 | i-Pulse Duo (Standard Labels) | i-Pulse Duo (Stitched Labels) |
|------------------------|---------------------------|-----------------|--|--|
| 60 μ | 8 mm | 8 mm | 6 mm | 12 mm |
| 50 μ | 6 mm | N/A | N/A | N/A |
| 40 μ | 4 mm | N/A | N/A | N/A |


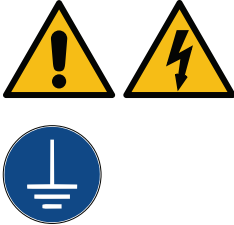


Ventilation

| WARNING | Flammable Vapour. Risk of Fire. |
|---|---|
|   | <p>Make sure that no static or spark generating devices are near to the printer cabinet's vent.</p> <p>Static or spark generating devices may ignite flammable vapour from the printer cabinet's vent.</p> |

Solvent based printing inks and their vapours are flammable. As well as ensuring that all equipment is earthed, and that anti-static precautions are followed, an extraction system must be provided to remove fumes and vapours from the production line and anywhere else that the printer may be operated.

The ventilation system must achieve a minimum of 10 air changes per hour (20 air changes per hour recommended).




Electrical Supply

| WARNING | Electricity. Risk of Injury. |
|---|---|
|  | <p>Only use the correct Domino supplied electrical mains lead (power supply cable).</p> <p>The electrical mains lead supplies an electrical ground (earth) to the printer cabinet and print head. If the correct mains lead is not used, the printer cabinet or print head may become electrically live if a malfunction occurs.</p> |
| WARNING | Electricity. Risk of Injury. |
|  | <p>Make sure that the electrical ground (earth) connection to the printer's electrical mains lead (power supply cable) is common (shared) with any electrical ground connections that are made to the print head mounting bracket or any other printer mounting brackets.</p> <p>If the electrical mains lead and the mounting brackets are not connected to a common ground, the difference in the electrical potential between them may cause a malfunction and injury to personnel.</p> |
| WARNING | Electricity. Risk of Injury. |
|  | <p>Use a screw driver to tighten both screws on the power supply plug.</p> <p>If the screws are not tight, moisture may enter the power supply socket. If moisture enters the power supply socket, an electrical short circuit, damage to equipment and injury to personnel may occur.</p> <div data-bbox="488 1279 1251 1509">  </div> |

The printer should be connected using a suitable plug and socket outlet which is accessible and close to the equipment so that power can be quickly disconnected. If a fused power connector is used, it should be fitted with a 5 A fuse. If a fused power connector is not used, then the supply circuit should have a circuit breaker or fuse rated at 5 A.



The supply must be free from electrical noise. Domino can give advice on suitable devices to ensure trouble-free operation.

Printer Cabinet Stacking Requirements







| WARNING Topple Hazard. Risk of Injury. | |
|--|---|
|  | <p>Do not stack two printer cabinets on the top shelf of a "type 1" printer stand.</p> <p>The "type 1" printer stand, cannot support 2 printer cabinets on the top shelf. If 2 printer cabinets are stacked on top of a "type 1" printer stand, the printers and stand may topple and injure personnel.</p> |
| WARNING Topple Hazard. Risk of Injury. | |
|  | <p>Do not stack two printer cabinets on the top shelf of a "type 2" printer stand, if the bottom shelf is empty.</p> <p>The "type 2" printer stand, cannot support 2 printer cabinets on the top shelf, if a printer cabinet or cupboard assembly is NOT mounted on the bottom shelf. If 2 printer cabinets are stacked on top of a "type 2" printer stand, and the bottom shelf is empty, the printers and stand may topple and injure personnel.</p> |
| WARNING Topple Hazard. Risk of Injury. | |
|  | <p>Use a stacking kit to secure the top two printer cabinets if two printer cabinets are stacked on the top shelf of a type 2 printer stand (with a third printer or a cupboard assembly on the bottom shelf).</p> <p>If a stacking kit is not used to secure the top two printer cabinets, the printers and stand may topple and injure personnel.</p> |

Printer cabinet stacking configurations are dependent on the type of printer stand and if a stacking kit is used or not.



The possible printer stacking configurations are listed below:



| 1 x Ax130i/Ax150i | | |
|---|---|------------------------|
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
|  |  | No |

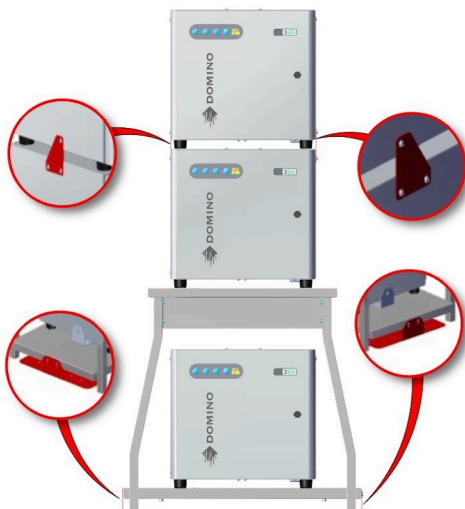
INSTALLATION

| 1 x Ax130i/Ax150i and Cupboard Assembly | | |
|---|---|------------------------|
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
|  |  | No |
| 2 x Ax130i/Ax150i | | |
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
|  |  | No |
| 1 x Ax350i/Ax550i | | |
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
|  |  | No |


INSTALLATION

| 1 x Ax350i/Ax550i and Cupboard Assembly | | |
|---|---|------------------------|
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
|  |  | No |



| 2 x Ax350i/Ax550i | | |
|--|--|------------------------|
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
|  |  | No |

| 3 x Ax350i/Ax550i | | |
|---|--|--|
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
| Type 1 Printer Stand is not rated for this configuration. |  | Stacking kit must be used. Refer to stacking kit instructions (EPT029265). |

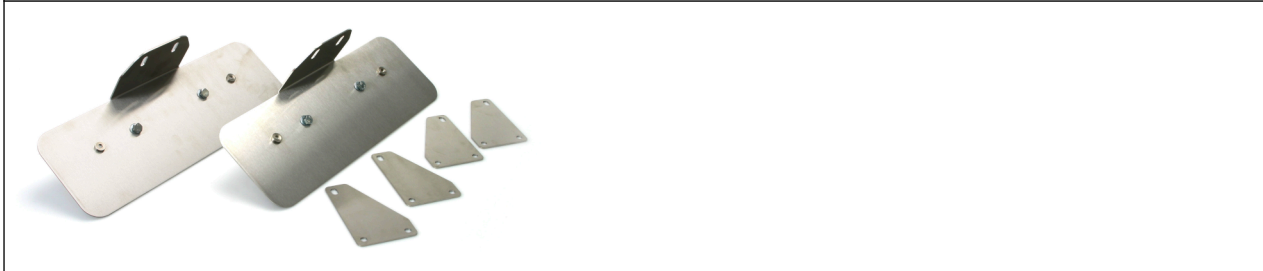
INSTALLATION

| 2 x Ax350i/Ax550i and Cupboard Assembly | | |
|---|--|--|
| Type 1 Printer Stand | Type 2 Printer Stand | Stacking Kit Required? |
| Type 1 Printer Stand is not rated for this configuration. |  | Stacking kit must be used. Refer to stacking kit instructions (EPT029265). |

Printer Stand Types

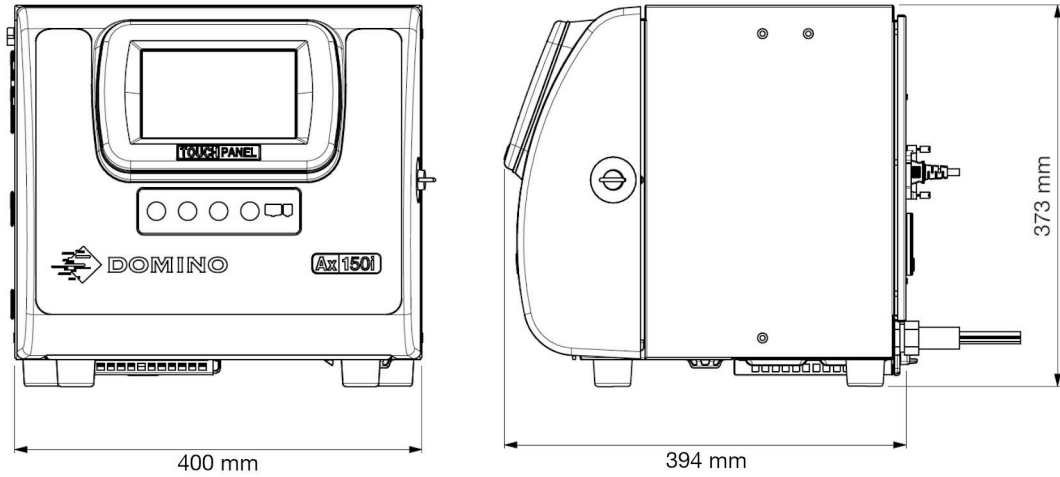
| Type 1 Printer Stand | Type 2 Printer Stand |
|---|--|
|  |  |

Stacking Kit

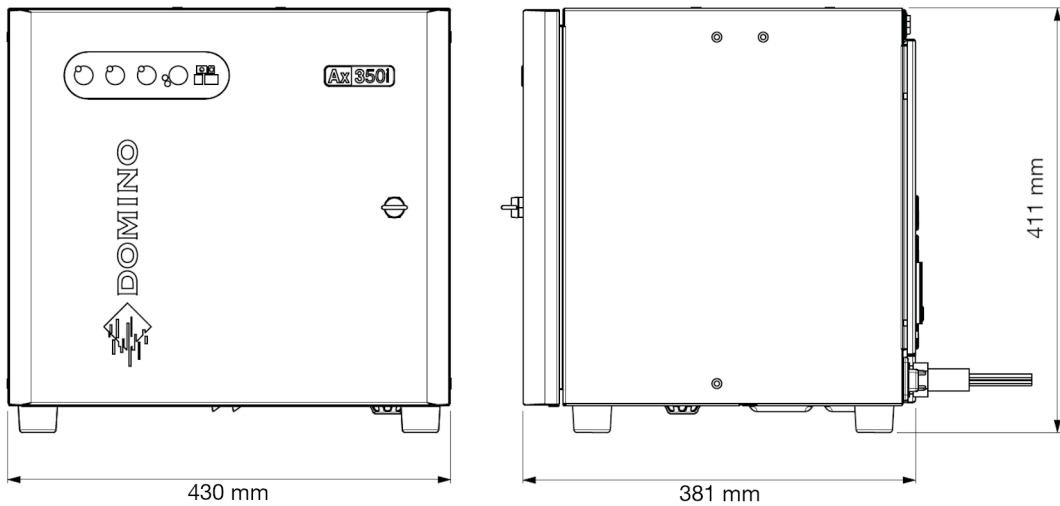


INSTALLATION DIMENSIONS

Ax130i/Ax150i

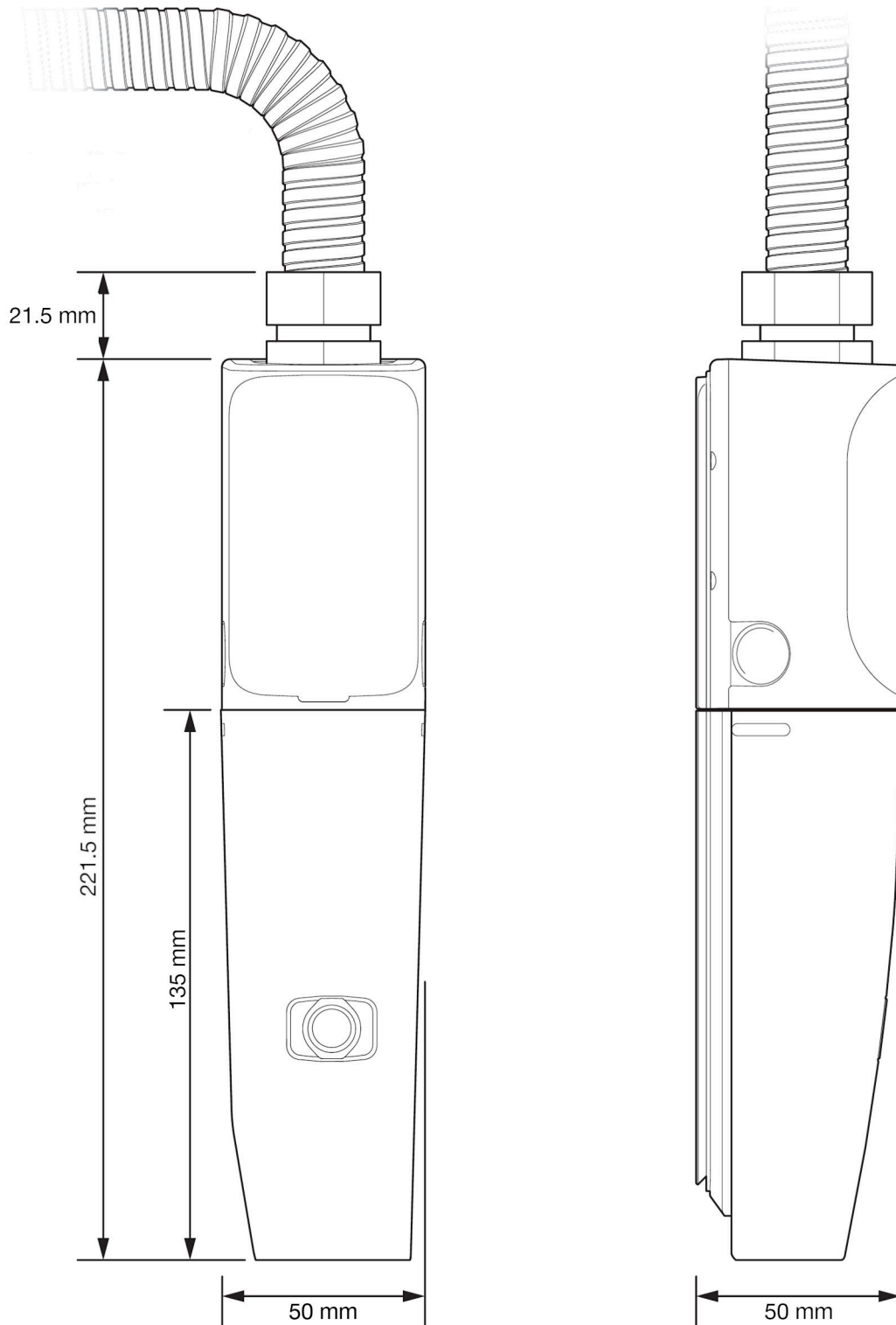


Ax350i/Ax550i



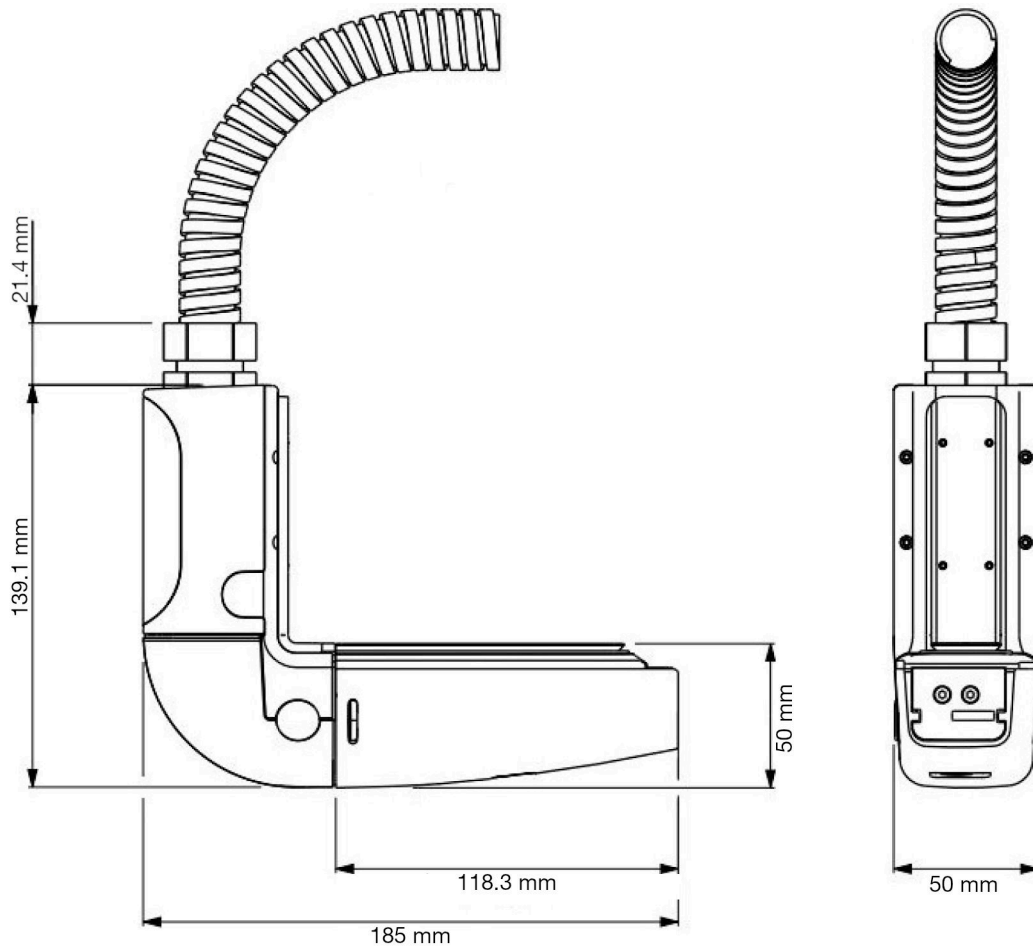
i-Pulse Print Head

Conduit minimum inside bend radius: 65 mm (2.55 ")



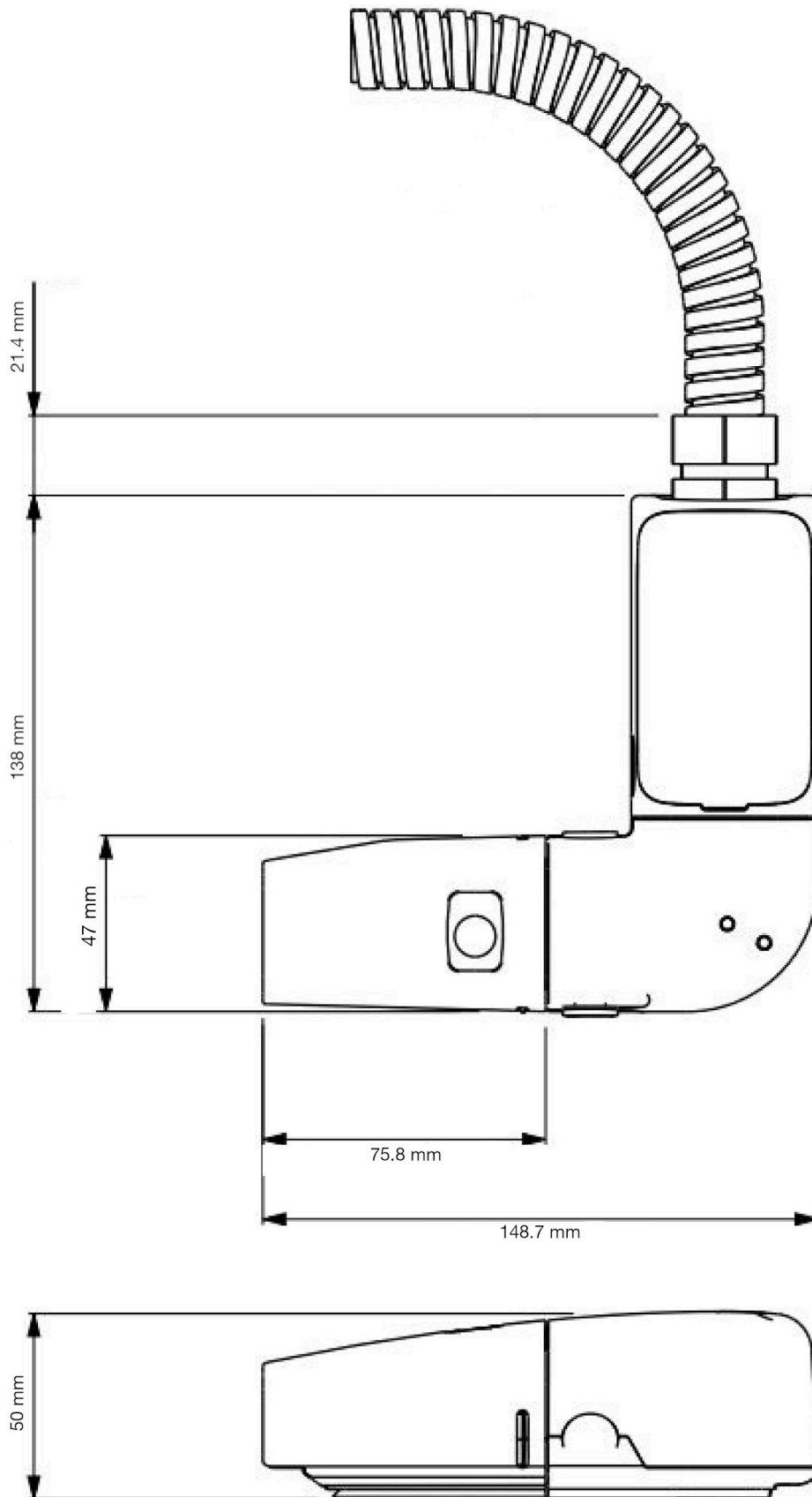
i-Pulse V90 Print Head

Conduit minimum inside bend radius: 65 mm (2.55 ")



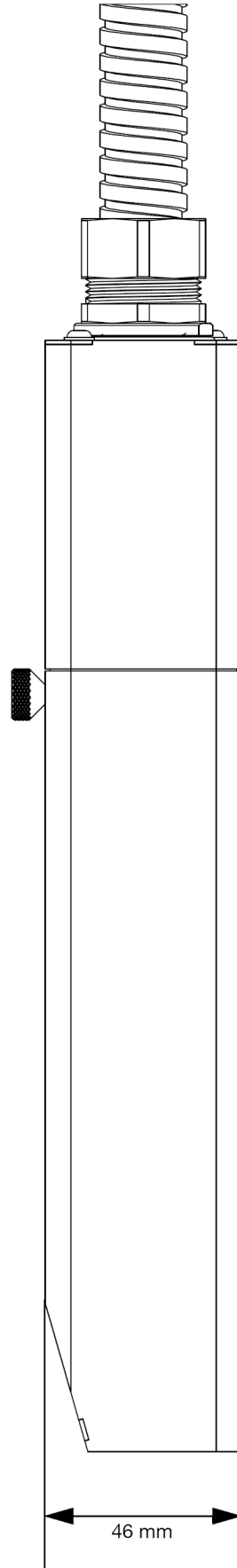
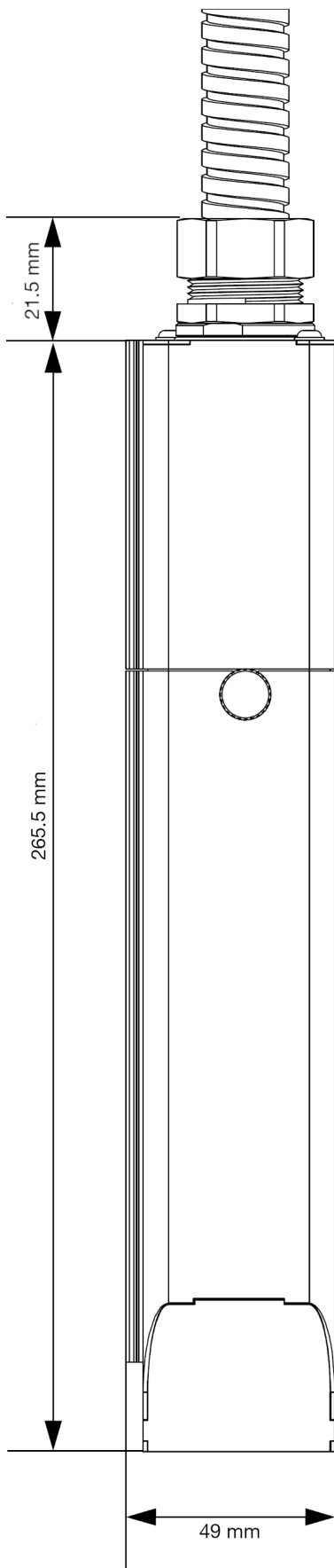
i-Pulse H90 Print Head

Conduit minimum inside bend radius: 65 mm (2.55 ")



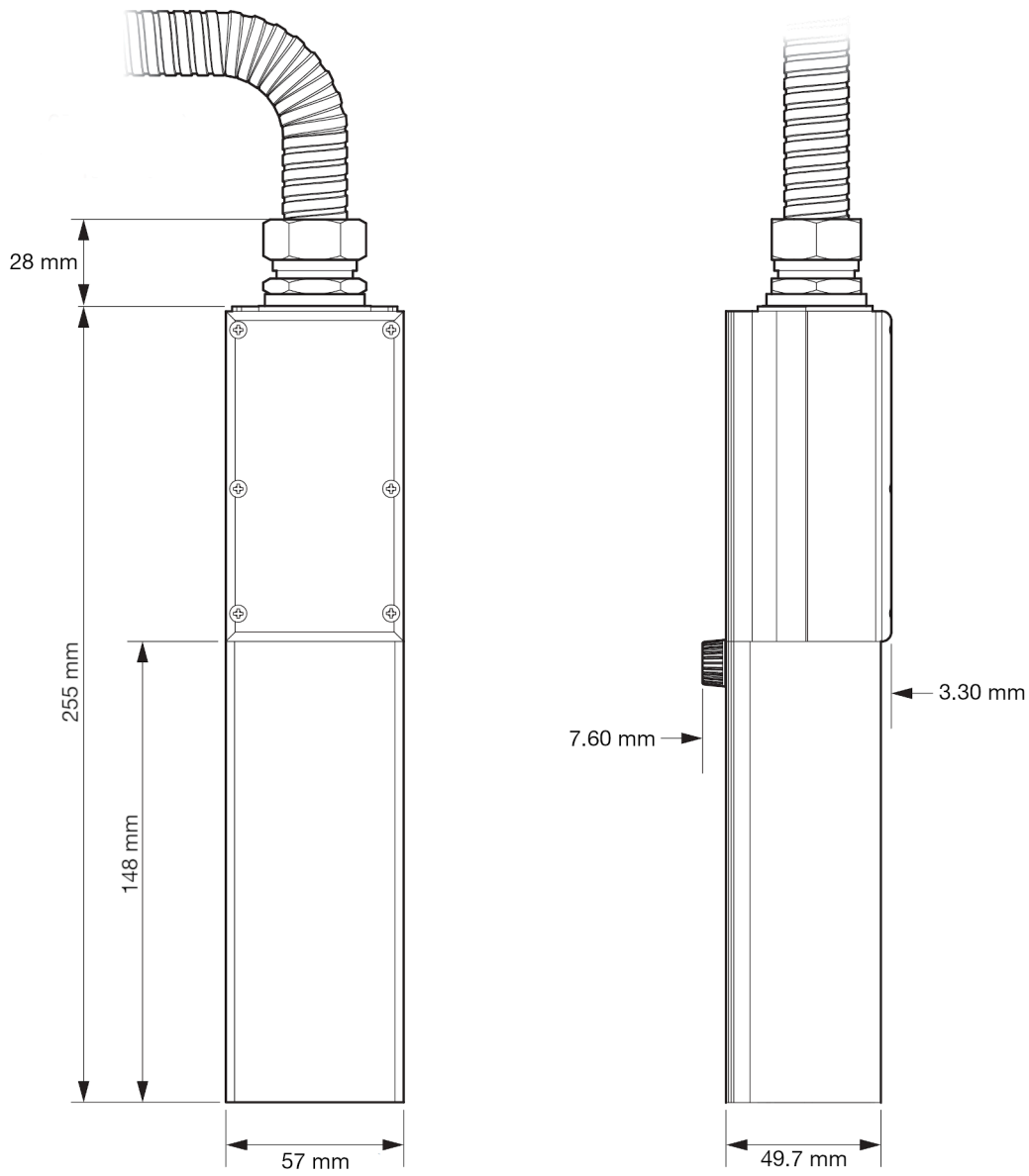
i-Pulse2 Print Head

Conduit minimum inside bend radius: 65 mm (2.56 ")



i-Pulse Duo Print Head

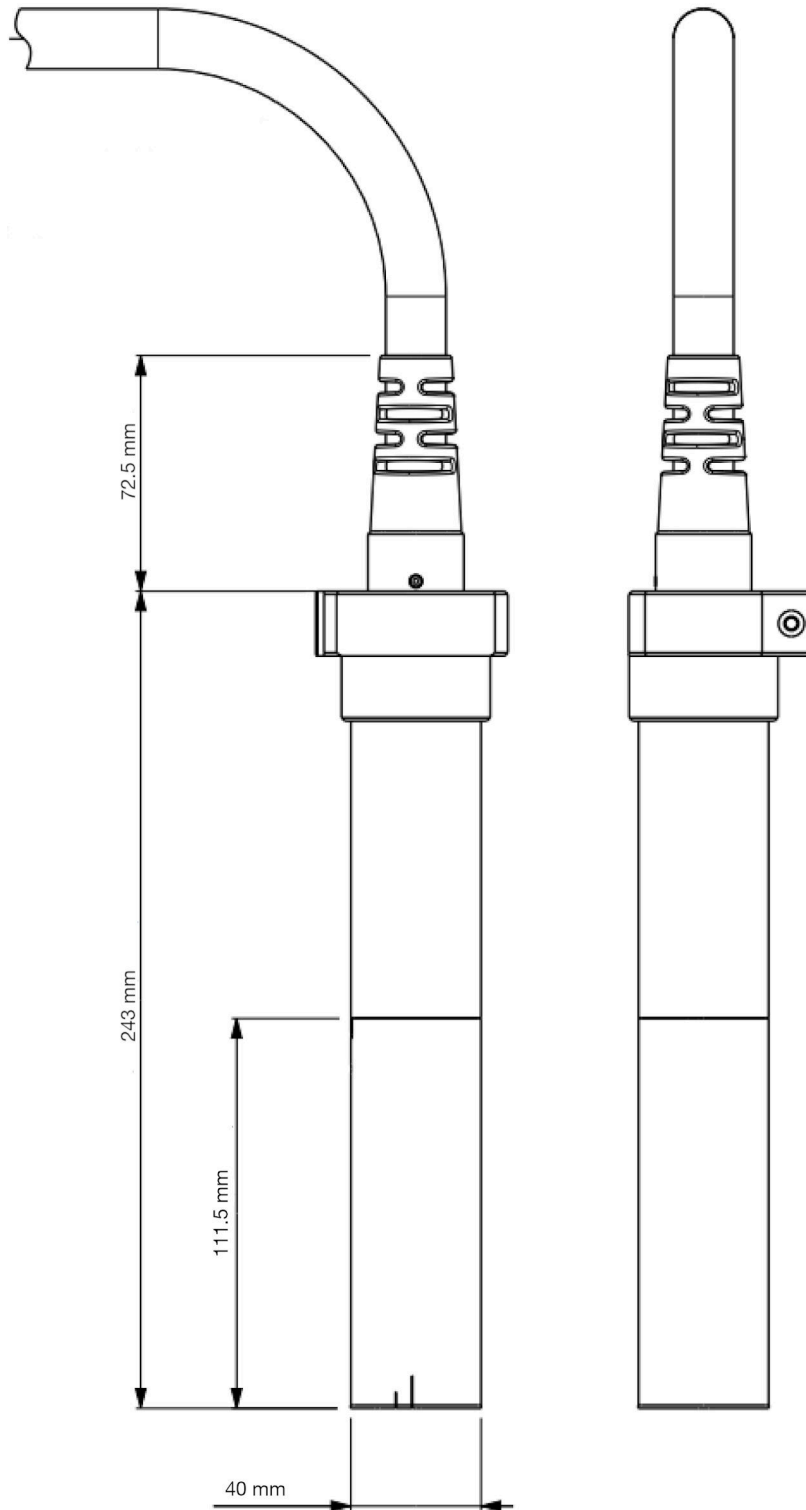
Conduit minimum inside bend radius: 65 mm (2.56 ")



i-Pulse RS Print Head (60 μ Nozzle)

Conduit minimum inside bend radius:

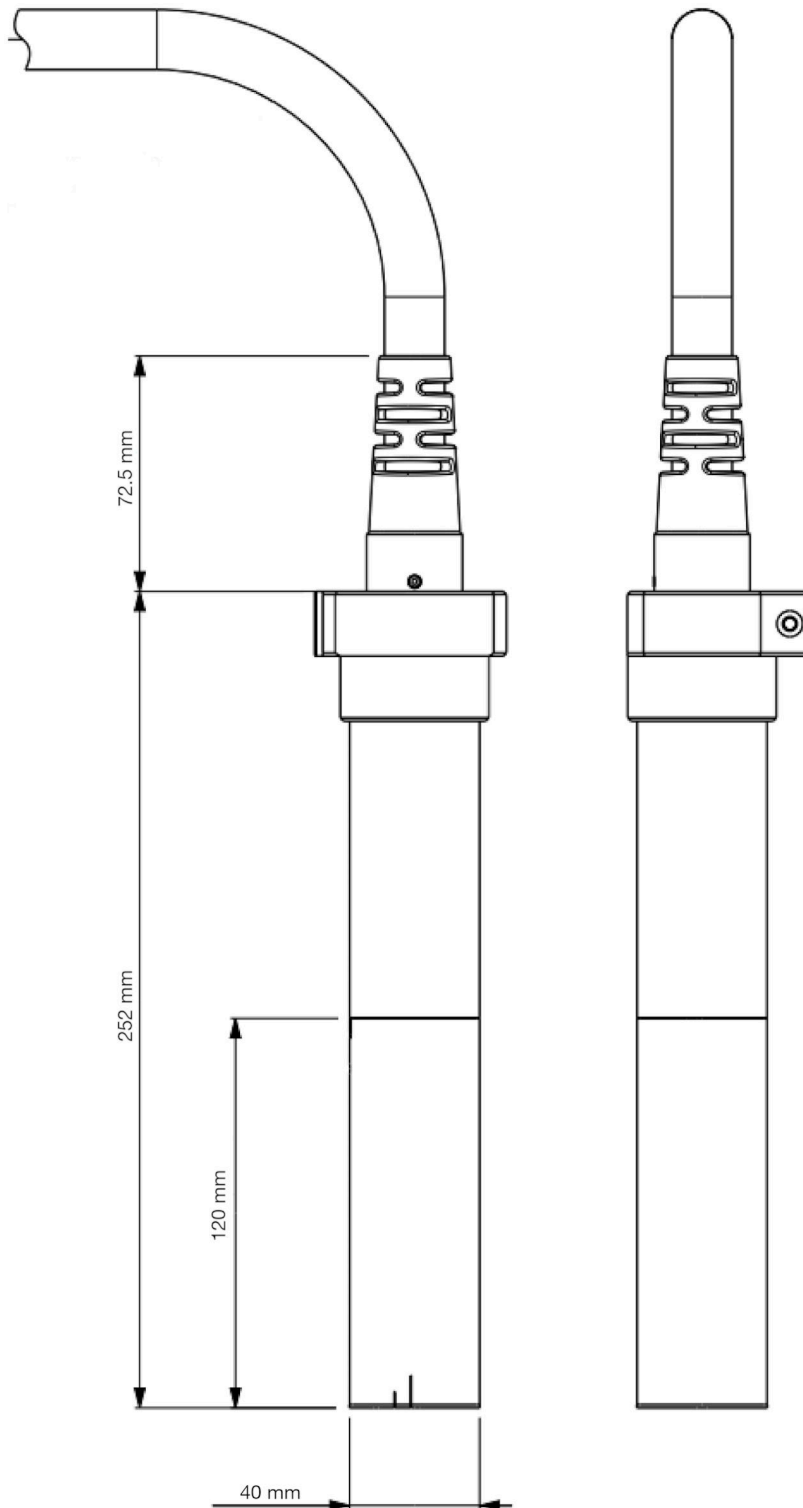
- Fixed installation: 70 mm (2.75 ")
- Continuous flex installation: 150 mm (5.90 ").



i-Pulse RS Print Head (75 μ Nozzle)

Conduit minimum inside bend radius:

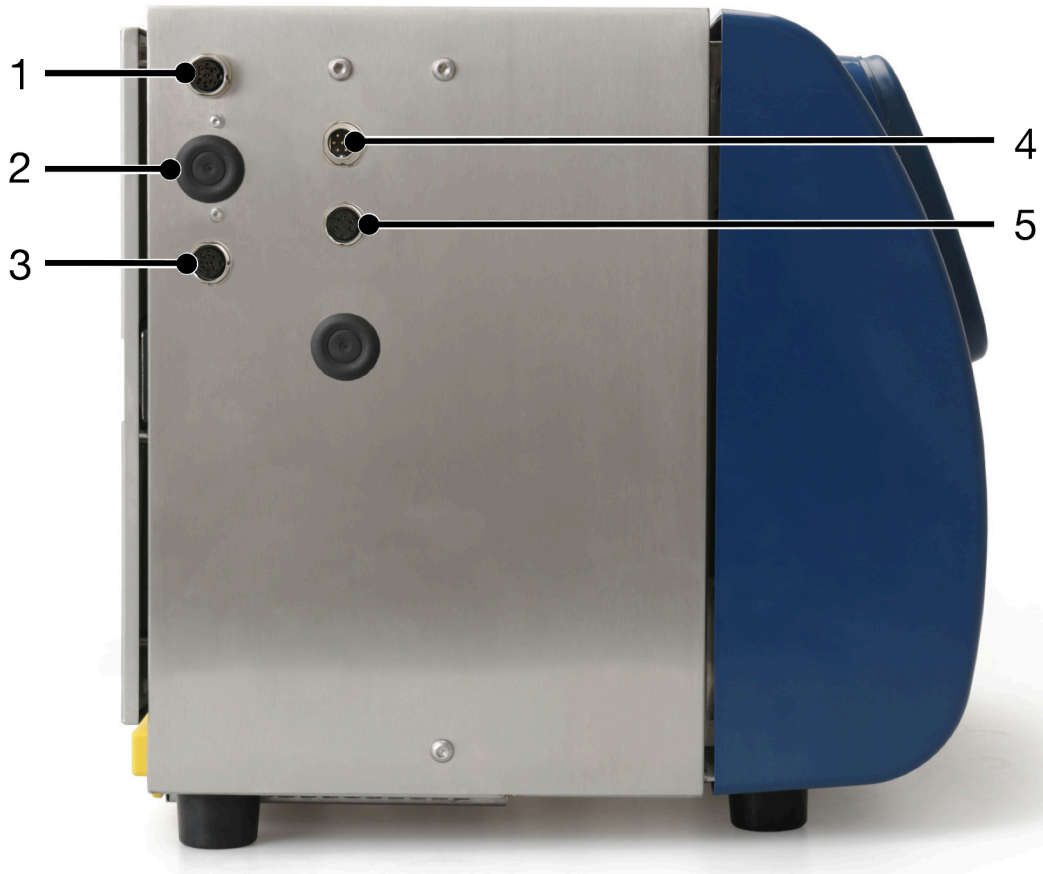
- Fixed installation: 70 mm (2.75 ")
- Continuous flex installation: 150 mm (5.90 ").



EXTERNAL CONNECTIONS

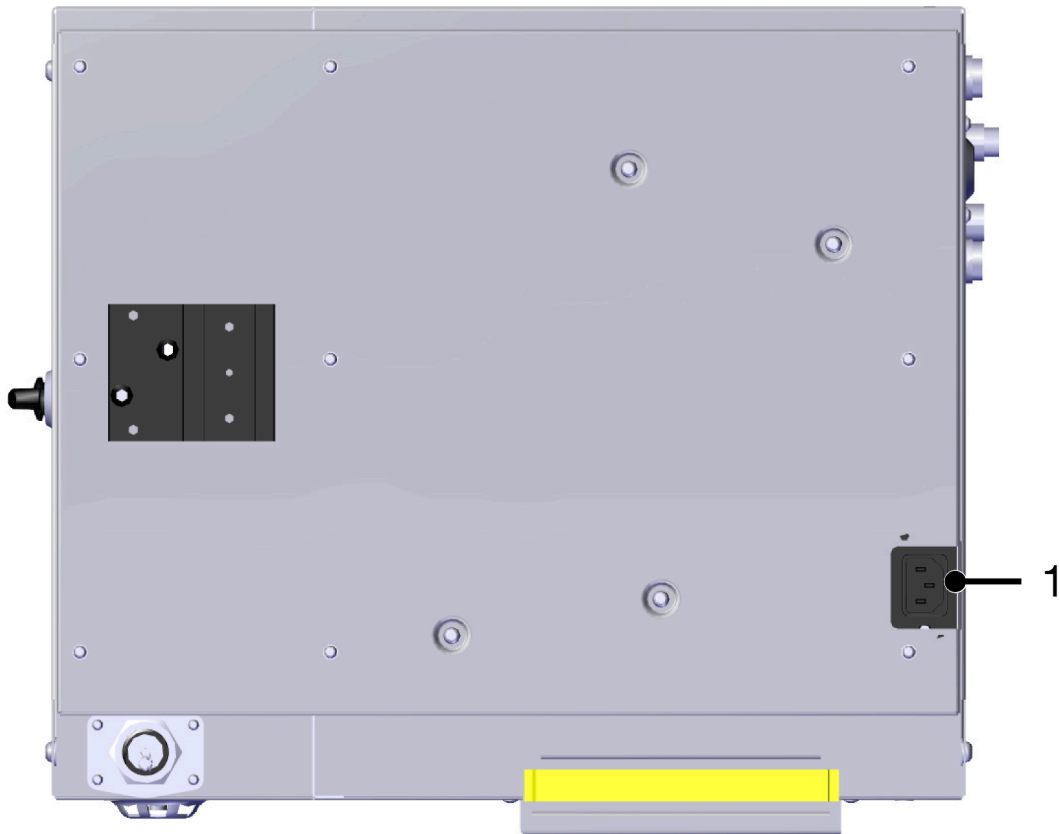
Ax130i Side

Note For data transfer, there is a USB port located inside the front door.



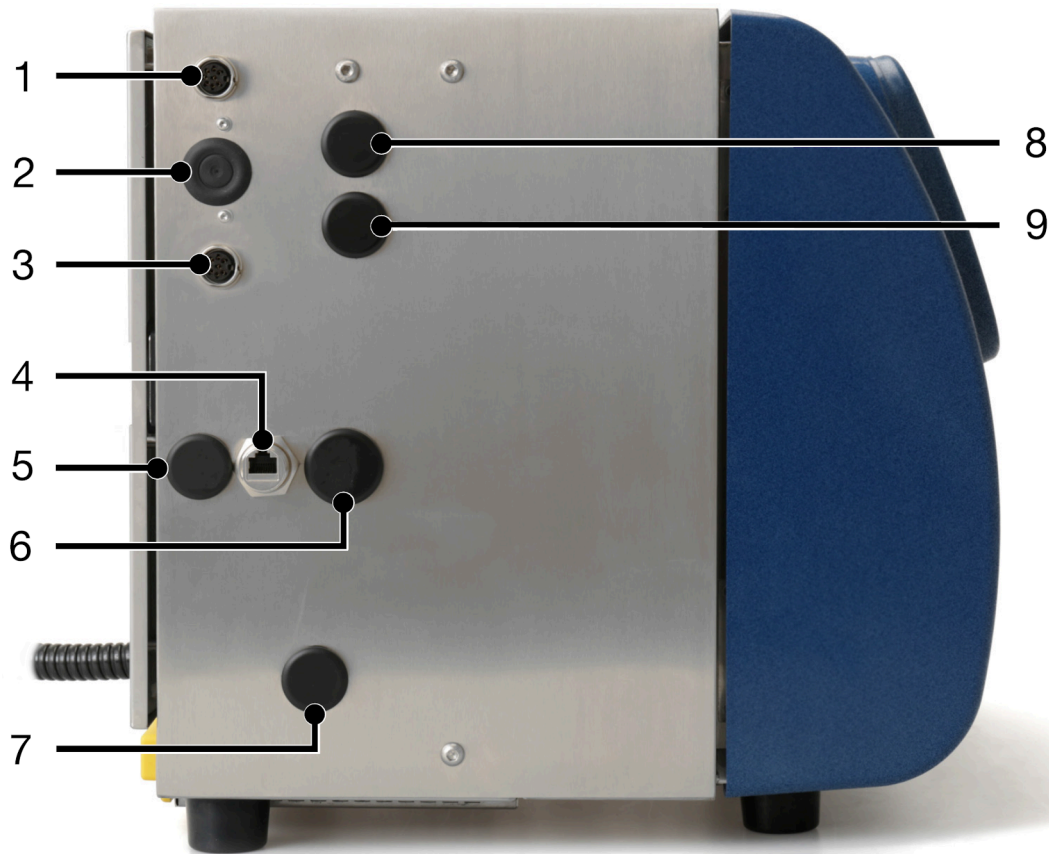
| # | Explanation |
|---|------------------------------|
| 1 | Product Detect/Shaft Encoder |
| 2 | PNP/NPN Selection Switches |
| 3 | Product Detect/Shaft Encoder |
| 4 | Alarm |
| 5 | Beacon |

Ax130i Rear



| # | Explanation |
|---|-------------|
| 1 | Power |

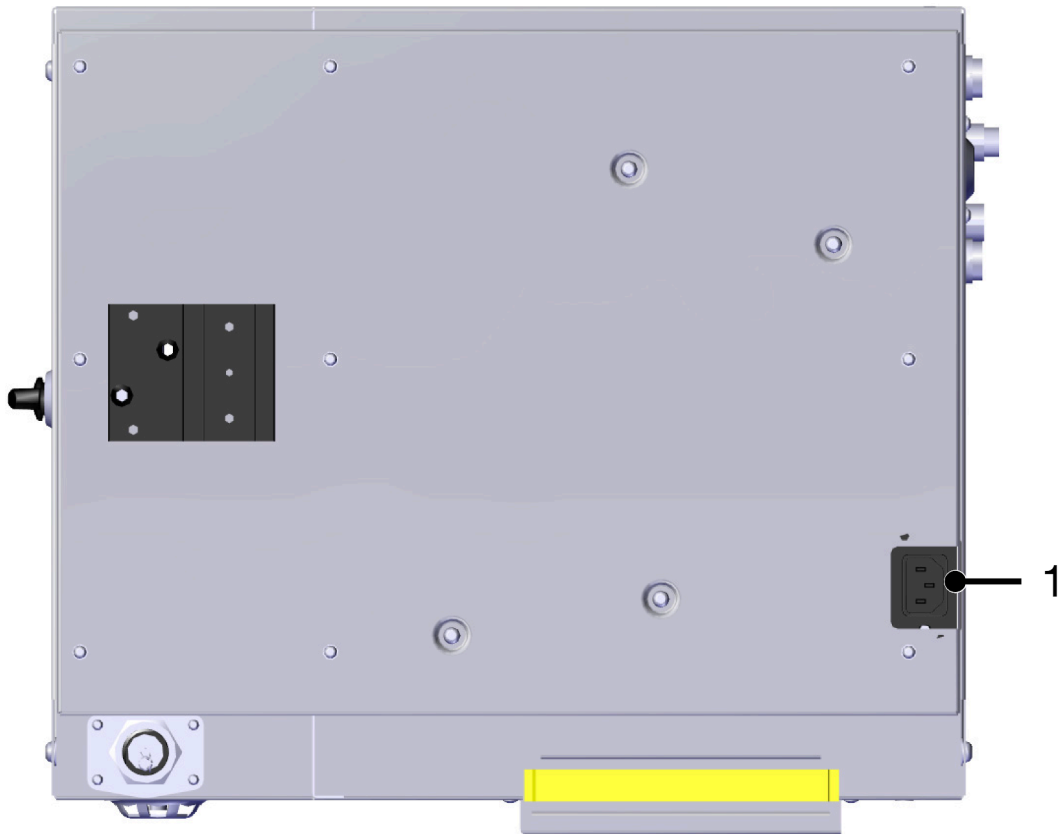
Ax150i Side



Note Depending on your region, standard connections may be different.

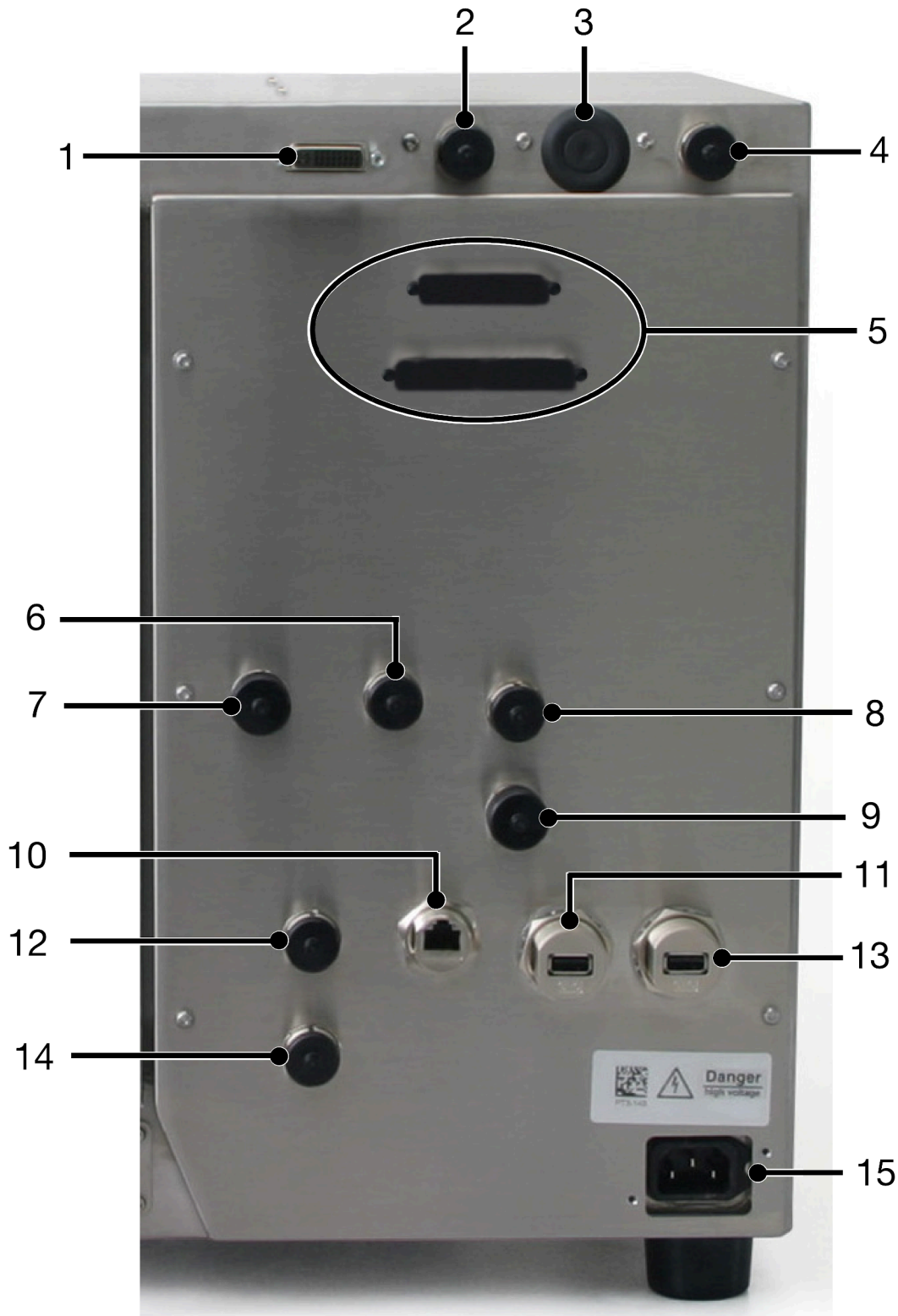
| # | Explanation |
|---|--|
| 1 | Product Detect/Shaft Encoder (Installed as Standard) |
| 2 | PNP/NPN Selection Switches (Installed as Standard) |
| 3 | Product Detect/Shaft Encoder (Installed as Standard) |
| 4 | Ethernet (Installed as Standard) |
| 5 | RS232 (Option) |
| 6 | USB Type A (Installed as Standard) |
| 7 | GPIO (Option) |
| 8 | Alarm (Installed as Standard) |
| 9 | Beacon (Installed as Standard) |

Ax150i Rear



| # | Explanation |
|---|-------------|
| 1 | Power |

Ax350i/Ax550i Rear




Note Depending on your region, standard connections may be different.

| # | Explanation |
|---|--|
| 1 | TouchScreen (Installed as Standard) |
| 2 | Product Detect/Shaft Encoder (Installed as Standard) |

INSTALLATION

| # | Explanation |
|----|--|
| 3 | PNP/NPN Selection Switches (Installed as Standard) |
| 4 | Product Detect/Shaft Encoder (Installed as Standard) |
| 5 | Extended GPIO (Option) |
| 6 | GPIO (Option) |
| 7 | RS232 (Option) |
| 8 | Beacon (Installed as Standard) |
| 9 | Alarm (Installed as Standard) |
| 10 | Ethernet (Installed as Standard) |
| 11 | USB Type A (Installed as Standard) |
| 12 | Powered HMI (Option) or, DCI Port (Option) |
| 13 | USB Type A (Option) |
| 14 | Control Port (Option) |
| 15 | Power (Installed as Standard) |

Product Detect/Shaft Encoder Socket Description

| CAUTION | Miss-connection Hazard. Risk of Equipment Damage. |
|---|---|
|  | <p>Shut down the printer and disconnect the power lead from the rear of the printer before connecting a product detect sensor or shaft encoder to the PD/SE socket.</p> <p>The product detect sensor or shaft encoder can be damaged, if the pins on the product detect sensor or shaft encoder plug make contact with the wrong pins on the PD/SE socket.</p> |

As standard, Ax-Series printers are equipped with two product detect and shaft encoder sockets. The socket locations are illustrated on:

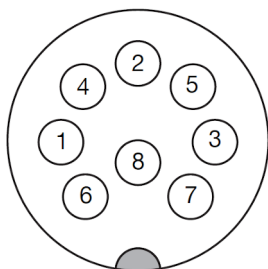
- [Ax130i Side on page 76](#)
- [Ax150i Side on page 78](#)
- [Ax350i/Ax550i Rear on page 80.](#)

The printer provides a 24 V DC supply for use by a product sensor and selectable 24 V NPN (Default) or PNP input for signals from a shaft encoder. NPN or PNP can be selected by changing the micro-switches on the PCB as described on [Product Detect/Shaft Encoder PNP and NPN Selection on page 84.](#)

The maximum current supply is 0.36 A. The current is shared between both the product detect/shaft encoder sockets. Devices connected to the product detect/shaft encoder sockets must not draw more than a combined current of 0.36 A.

The diagram and table below illustrate the pin out for the product detect/shaft encoder sockets.

Note If the sockets are not in use, ensure the sealing caps are fitted to maintain the printer cabinet's IP rating.



*8-Way PD/SE Socket
(External Cabinet
View)*

| Pin | Description |
|-----|-----------------------|
| 1 | 24 V DC Power Supply |
| 2 | Ground |
| 3 | Product Detect (+) |
| 4 | Product Detect (-) |
| 5 | Encoder Channel A (+) |
| 6 | Encoder Channel A (-) |

INSTALLATION

| Pin | Description |
|-------|----------------------------|
| 7 | Encoder Channel B (+) |
| 8 | Encoder Channel B (-) |
| Shell | EMC_GND via panel mounting |

Product Detect/Shaft Encoder PNP and NPN Selection

The pictures below illustrate the PNP/NPN selection switches on the Product Detect/Shaft Encoder PCB. The configuration of these switches will set the product sensor and shaft encoder inputs to either PNP or NPN. There are LEDs on the PCB to indicate that the signal is correct.

The switches are accessed by removing the rubber grommet shown on:

- [Ax130i Side on page 76](#)
- [Ax150i Side on page 78](#)
- [Ax350i/Ax550i Rear on page 80.](#)

Note Refit the rubber grommet to maintain the printer cabinet's IP rating.

When a single channel (non-quadrature) shaft encoder is used, only the channel SE_A can be utilised.

For information on settings:

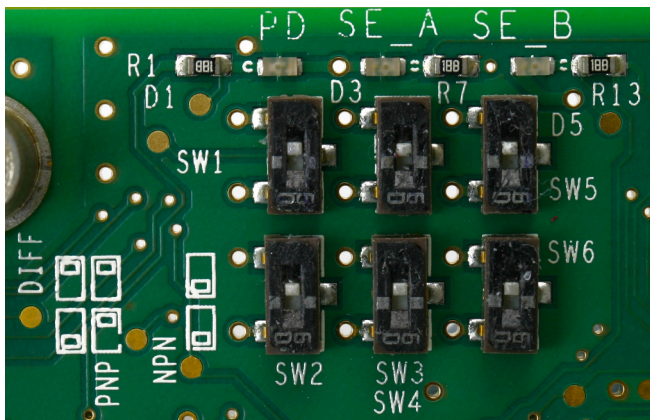
PD = Product Detect

SE_A = Shaft Encoder 1 > Shaft Encoder Phase A

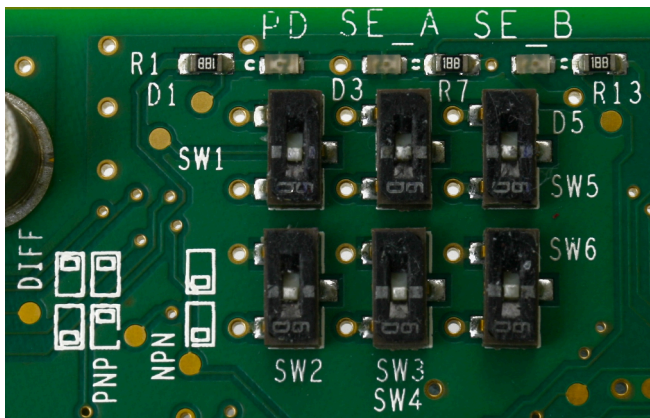
SE_B = Shaft Encoder 1 > Shaft Encoder Phase B

Sinking = NPN Configuration

Sourcing = PNP Configuration




Switches Set to PNP



Switches Set to PNP

SENSOR INSTALLATION

| | |
|---|---|
| CAUTION | Miss-connection Hazard. Risk of Equipment Damage. |
|  | <p>Shut down the printer and disconnect the power lead from the rear of the printer before connecting a product detect sensor or shaft encoder to the PD/SE socket.</p> <p>The product detect sensor or shaft encoder can be damaged, if the pins on the product detect sensor or shaft encoder plug make contact with the wrong pins on the PD/SE socket.</p> |

Details of product detect sensors can be found in the Accessories Catalogue on myDomino.

Product detector sensors are connected to the printer via one of the printer's product detect/shaft encoder sockets. The socket locations are illustrated on:

- [Ax130i Side on page 76](#)
- [Ax150i Side on page 78](#)
- [Ax350i/Ax550i Rear on page 80.](#)

Sensor Positioning

Position the product detector at a location where it will detect the product before the product reaches the print head. Either the leading or trailing edge of the product detect signal can be used trigger a print.

The product detect sensor should be positioned as close as possible to the print head to avoid the next product being detected before the current print is complete.

On a very high speed production line, try to ensure the print head and product detect sensor are only one product apart. To allow a good amount of delay a minimum distance between the print head and product detect sensor of 30 mm is recommended.

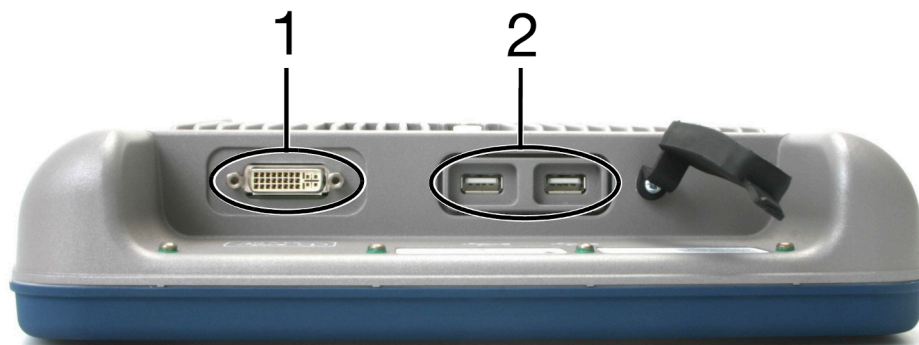
If it is not possible to position the product detect sensor close to the print head; the *Product queue depth* setting (not available for Ax130i) (see [Product Queue Depth on page 123](#)) can be set to define the number of products that come between the print head and product detect sensor.

TOUCHSCREEN INSTALLATION (AX350I/AX550I)

Ax350i and Ax550i printers are operated either via a TouchScreen, or via a PC.

Remote TouchScreen 10"

The Remote TouchScreen 10" is a user interface with a 10.4 inch touch screen. It has 2 USB ports for data transfer and a connector to provide control of Ax350i/Ax550i printers.



| # | Explanation |
|---|-----------------------------------|
| 1 | TouchScreen to Printer Connection |
| 2 | USB Type A |

Remote TouchScreen 7"

The Remote TouchScreen 7" is a user interface with a 7 inch touch screen. It has 2 USB ports for data transfer and a connector to provide control of Ax350i/Ax550i printers.



| # | Explanation |
|---|-----------------------------------|
| 1 | TouchScreen to Printer Connection |
| 2 | USB Type A |

Ax350i TouchScreen Mounting

A TouchScreen can be mounted to the top of the cabinet using the angled bracket and 8 screws provided.

TouchScreens can also be mounted elsewhere on the production line using a VESA 75 bracket.

Tools required: 5 mm and 4 mm hex key.



Ax550i TouchScreen Mounting

A TouchScreen can be mounted to the Ax550i cabinet using the bracket and eight screws provided.

TouchScreens can also be mounted elsewhere on the production line using a VESA 75 bracket.

Tools required: 5 mm and 4 mm hex key.



TouchScreen Connectivity

TouchScreens are connected to the TouchScreen connector on the rear of the Ax350i/Ax550i printer. The TouchScreen will display the user interface relating to that printer when the printer is turned on.

CAUTION**Bad Cable Routing. Risk of equipment damage.**

Route cables and wires away from moving parts and machinery. Make sure that cables and wires are properly secured, so they are not at risk of being caught in moving parts or machinery.

If cables and wires become caught in moving parts or machinery, damage to equipment may be caused.




PREPARING THE INK SYSTEM



The procedures described in this section must be followed when the ITM, ink and make-up cartridges are installed for the first time or following a long shut-down after ITM removal.

Start-up

To start-up the printer:

1. Connect the power cable to the power socket on the rear of the printer and plug the power cable into the power supply.
2. Press and hold the  button on the printer cabinet for 2 seconds.
3. Wait for the printer to start-up.

Prepare the Print Head

WARNING**Hazardous Chemicals. Risk of eye and skin damage.**

Wear protective equipment such as gloves and glasses when near the printer.

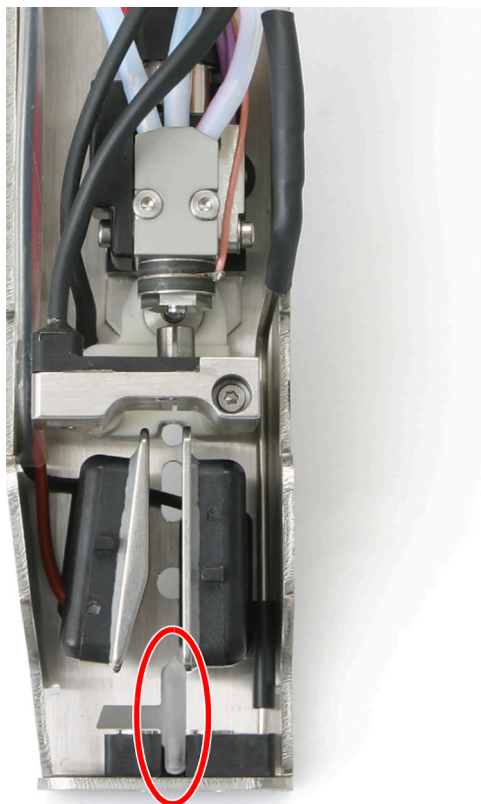
Contact with chemicals can cause skin or eye damage.

Refer to Safety Data Sheet.

To prepare the print head:





1. Remove the print head cover.
2. Remove the silicone tube cap over the gutter (if fitted). Check that the print head is clean and dry.

Note Image shows a single jet i-Pulse Print Head.



3. Replace the print head cover.
4. Fit the print head into a wash station, or place a beaker underneath the print head.

ITM Installation

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|--|---|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| WARNING Pressurised Ink System. Risk of Ink Injury. | |
|  | <p>When installing the ITM, make sure the retaining clips are fully engaged.</p> <p>If the retaining clips are not fully engaged, ink may spray out of the ink system and cause injury to personnel.</p> |
| CAUTION Hazardous Chemicals. Risk to the environment. | |
|  | <p>Obey local waste disposal regulations, to dispose of used paper towels.</p> <p>Used paper towels will be contaminated with chemicals that are hazardous to the environment.</p> |

This procedure should be followed when installing the ITM for the first time or following long shut down after ITM removal. If replacing an expired ITM follow the procedure described on [ITM Replacement on page 248](#).

Required equipment: Lint free paper towels and wash that is compatible with the printer's ink system.

Note The correct wash type is listed on the printer's internal configuration label.


To install the ITM:

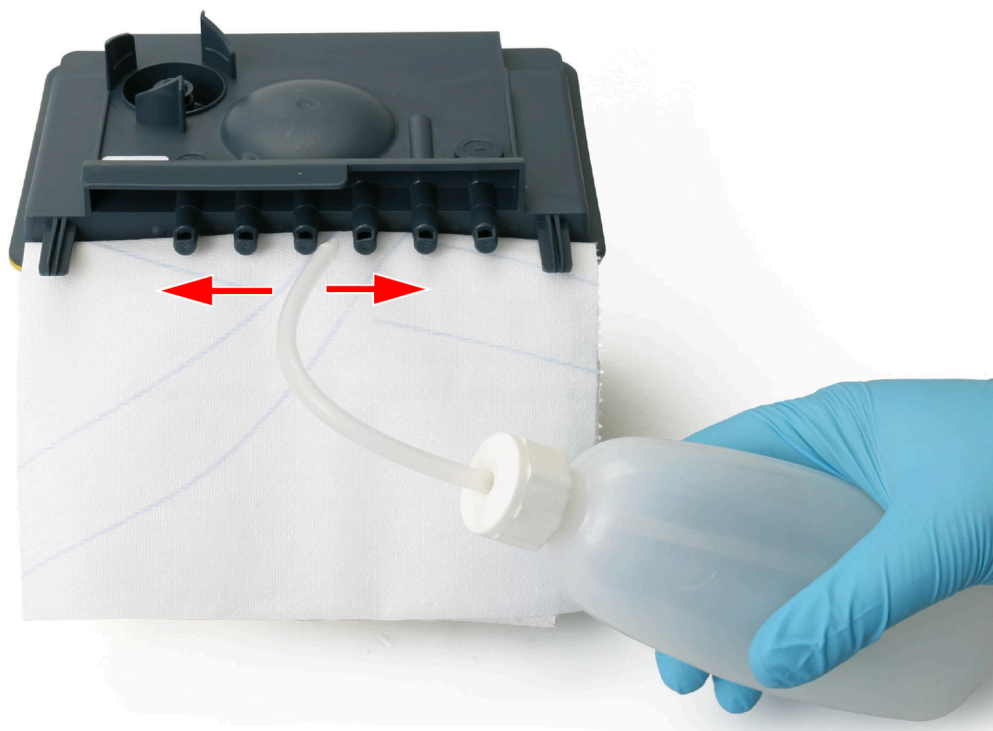
1. Open the printer ink cabinet.
2. Place paper towel on top of the level sensor modules to catch excess fluid.
3. Use wash to remove any dried residual ink from the ink block valve face.

INSTALLATION



4. Unpack the ITM and remove the sealing strip that protects the ITM manifold pipes.
5. Place paper towel under the ITM manifold pipes and lubricate the pipes with wash.

| CAUTION Fluid Hazard. Risk of Fluid Leak. | |
|---|--|
|  | <p>Lubricate the ITM pipes with wash.</p> <p>If the pipes are not lubricated, it may not be possible to make a good seal between the ink block and ITM. A bad seal may cause fluid to leak.</p> |




6. Insert the ITM between the retaining clips and firmly push the ITM manifold pipes into the ink block.

INSTALLATION





7. Continue pushing the ITM until the retaining clips engage with a click.

| WARNING | Pressurised Ink System. Risk of Ink Injury. |
|--|---|
|  | <p>When installing the ITM, make sure the retaining clips are fully engaged.</p> <p>If the retaining clips are not fully engaged, ink may spray out of the ink system and cause injury to personnel.</p> |



8. Close the printer cabinet.
9. Dispose of used paper towels by following local waste disposal regulations.

Ink and Make-up Cartridge Installation

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|--|
|  | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| WARNING Pressurised Containers. Risk of Injury. | |
|  | <p>Do not tamper with the valves on the ink and make-up cartridges.</p> <p>Ink and make-up cartridges may become pressurised by changing atmospheric conditions. If the valve on the cartridge is tampered with, pressurised ink or make-up may injure personnel.</p> |

Shake heavy duty ink cartridges for at least 2 minutes before fitting.

This procedure should be followed when installing the ink and make-up cartridge for the first time.

If replacing an old or empty cartridge, see [Ink and Make-up Cartridge Replacement on page 242](#).

Tools required: 6 mm hex key.

To install the Ink and Make-up cartridges:

1. Before inserting the cartridges in the printer, hold the cartridges near the Quality Management Module (QMM) to check that the ink and make-up type is correct. The lights on the QMM will flash amber to indicate that the RFID tags are being read. When the RFID tags have successfully been read and validated, the lights will turn green. See [QMM \(Quality Management Module\) Status Lights on page 53](#).



2. Insert a 6 mm hex key into the top of the cartridges and twist to break the sealing tabs. Remove the sealing tab.

INSTALLATION



3. Push the make-up cartridge onto the make-up module manifold and push the ink cartridge onto the ITM.



4. Rotate the ink cartridge clockwise and the make-up cartridge anti-clockwise, ensuring that the label is facing towards you.




INSTALLATION



| # | Description |
|---|-------------------|
| 1 | Make-up Cartridge |
| 2 | Ink Cartridge |

5. Check inside the printer for leaks.
6. Shut the ink compartment access door.
7. The ink system must now be primed, follow the procedure on [Prime the Ink System on page 99](#).

Prime the Ink System

| WARNING | Hazardous Chemicals. Risk of eye and skin damage. |
|---|--|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage.</p> <p>Refer to Safety Data Sheet.</p> |

The ink system must be primed before the printer can be used for the first time.

Before starting this procedure, ensure that the ink and make-up levels are at least half full. This will be indicated by yellow or green make-up and ink level icons on the information bar on the TouchScreen, see [Home Screen on page 142](#).

To run the ink priming wizard:

1. Fit the print head into a wash station, or place a beaker underneath the print head.
2. On the TouchScreen, select *Home > Setup > Wizards > Ink priming*.
3. Select *Start ink priming*.

| | |
|------|--|
| Note | The ink priming wizard will take 12 minutes to complete. |
|------|--|

4. Select *Complete* when the ink priming process is finished.
5. Check the ink jet alignment:
 - [i-Pulse Ink Jet Alignment Check on page 261](#)
 - [i-Pulse2 Ink Jet Alignment Check on page 270](#)
 - [i-Pulse Duo Ink Jet Alignment Check on page 275](#)
 - [i-Pulse RS Ink Jet Alignment Check on page 281](#).

WAKE-UP MODE

-
- Notes
1. This feature is not available for Ax130i.
 2. Wake-up mode is normally required for heavy duty ink types.
 3. Wake-up mode requires the printer to be powered on and in the Standby/Idle/Ink jet off state to run.
 4. Wake-up mode will not run if the printer is in "Sleep" mode or if the printer is "Shut down".
-

Wake-up mode ensures the ink remains at a good viscosity during long periods of idle time. When enabled, the wake-up routine will run the printer's main pump for 2-3 minutes every 20 minutes to agitate the ink. The wake-up mode time interval can also be customised.

Enable/Disable Wake-up Mode

To enable or disable wake-up mode:

1. On the TouchScreen, select *Home > Setup > Advanced > Hardware*.
2. Scroll down to the *Wake-up mode* drop down setting and select one of the options described below:

| Setting Name | Explanation |
|-----------------|--|
| Factory default | Set the wake-up mode to the factory default setting. |
| On | Enable wake-up mode. Recommended for printers equipped with a heavy duty ink system. |
| Off | Disable wake-up mode. Recommended for printers equipped with a standard ink system. |

Set a Custom Wake-up Mode Interval

To set a custom wake-up mode time interval:

1. On the TouchScreen, select *Home > Setup > Advanced > Hardware*.
2. Scroll down to the Wake-up mode settings and tick the *Custom wake-up time enabled* tick box.
3. Adjust the *Wake-up time (min)* value to set the number of minutes in between wake-up mode cycles.

ENABLE COUNTER RESET ON HOME SCREEN

A button can be displayed or hidden on the Home screen, to allow users to easily reset the counter elements in the currently printing label.

To enable the reset counters button on the Home screen:

1. Select *Home > Setup > Printer status > Counters*.
2. Tick the *Enable reset counters on home* screen tick box.

ENABLE GPI COUNTER UPDATES ONLY

Note This feature is not available for Ax130i.

The printer can be setup so that counter elements in labels will only update, when a configured general purpose input is triggered.

Up to 4 counters in each label can be updated using 4 different inputs. To configure the inputs, see [Inputs on page 337](#).

When this setting is enabled, all other counter update triggers will be ignored. However, there is 1 difference to this rule. Counters that are triggered by other counters that are setup to be triggered by an input will continue to update.

For example:

If “Counter 1” is setup to update when an input is triggered and “Counter 2” is setup to be triggered by “Counter 1”, “Counter 2” will continue to update.


To enable GPI counter updates only:

1. Select *Home > Setup > Printer status > Counters*.
2. Tick the *GPI counter updates only* tick box.

SET SYSTEM DATE/TIME AND LANGUAGE

Note The correct System Date and System Time values must be entered to print accurate date or time elements within labels.

To start the printer and set the system date/time and language:

1. If the printer is not already on, press and hold the standby button  for 2 seconds and wait for the printer to start up.
2. Select *Home* > *Setup* > *Regional*.
3. Use the drop down settings to select the required *Language*, *Keyboard layout*, *input method* and *Primary currency*.
4. Select *Date and time*.
5. Select the *System date* and enter the current date.
6. Select *Save*.
7. Select the *System time* and enter the current time.
8. Select *Save*.

PRODUCTION LINE SETUP

The following settings should be configured to set the printer up on a production line.

Line Movement




Home > Production line setup > Line movement

The settings shown on the Line movement screen configure how the printing speed is set or measured. There are 2 different encoder input methods available which are described in the table below.

- | | |
|-------|--|
| Notes | <ol style="list-style-type: none"> 1. It is recommended to use an external shaft encoder if the speed of the production line varies or there is a requirement to print barcodes or images. 2. Connect a quadrature shaft encoder instead of a single ended shaft encoder if there is a requirement to detect changes in the production line direction. A quadrature shaft encoder will also guarantee that the printer does not receive false production line movement signals when the production line is stationary. 3. The Ax130i supports external single ended shaft encoders or the internal encoder only. The Ax130i does not support external quadrature shaft encoders. 4. The Encoder graph displays the current encoder signal level, either high or low. |
|-------|--|

| Encoder Input Method | Explanation |
|----------------------|---|
| Internal | If a shaft encoder is not connected to the printer, a simulated encoder signal will be internally generated to set a fixed printing speed. See Internal Encoder (Fixed Printing Speed) Setup on page 105 . |
| External | <p>Use an external shaft encoder to measure the production line speed in real time. To setup an external shaft encoder, see External Single Ended Shaft Encoder Setup on page 107.</p> <p>If a quadrature shaft encoder is connected to the printer, the encoder mode can also be set to detect changes in the production line direction. To setup a quadrature shaft encoder, see External Quadrature Shaft Encoder Setup on page 111.</p> |

Internal Encoder (Fixed Printing Speed) Setup

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

Tools required: Metric ruler.

To setup an internal encoder with a fixed printing speed:

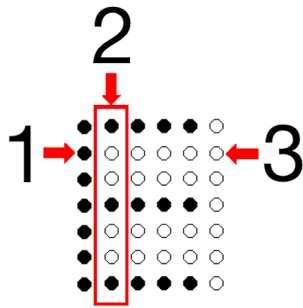
1. Create a test label that includes a text element in the label design, refer to [Create a New Label on page 169](#).
2. In the label creator, select the *Preview* tab at the top of the screen.
3. Make a note of the *Label width* value.
4. Select the *Print* icon, select *Just print* and select *OK*.
5. Select *Home > Production line setup > Line movement*.
6. Select the *START* icon and select *Sequence On*.
7. Select the *Encoder input* drop down setting and select *Internal*.
8. Select the *Speed (mm/s)* setting and enter the print speed in millimetres per second.
9. Run the production line to make a test print.
10. Measure the width of the test print.
11. If the width of the test print is not equal to the width noted at step (3), adjust the *Speed (mm/s)* setting and repeat step (9) and step (10). The equation below can also be used to calculate the correct *Speed (mm/s)* value:

$$N = O \times (P \div E)$$

| # | Explanation |
|---|------------------------|
| N | New Speed (mm/s) value |
| O | Old Speed (mm/s) value |
| P | Printed label width |
| E | Label width value |

12. If the label width needs to be adjusted after the *Speed (mm/s)* setting has been set, adjust the *Global stroke pitch goal (mm/stroke)* setting to change the distance between print strokes (default value: 0.43 mm).

Note A print stroke is the line of ink drops which make up each printed character as shown in the illustration below.







| # | Explanation |
|---|-----------------|
| 1 | Ink Drop |
| 2 | Print Stroke |
| 3 | Unused Position |

13. If the Print Stretch Detected alert occurs, the bullet points below list several possible solutions to correct the alert:

- Reduce the production line speed.
- Increase the label's *Stroke pitch (mm/stroke)* value, see [Edit a Label Layout on page 170](#).
- Change the label's *Type* setting to enable the label to be printed faster, see [Edit a Label Layout on page 170](#).
- If some print stretch is acceptable, adjust the *Print stretch threshold (mm)* setting (not available for Ax130i). This setting will adjust the amount of print stretch allowed before the alert is triggered.
- If print stretch is acceptable, the alert can be disabled (not available for Ax130i). Select *Home > Setup > Alert configuration > Configure alerts* and un-tick *Print Stretch Detected*.

External Single Ended Shaft Encoder Setup

| WARNING | Hazardous Chemicals. Risk of eye and skin damage. |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION | Miss-connection Hazard. Risk of Equipment Damage. |
|  | <p>Shut down the printer and disconnect the power lead from the rear of the printer before connecting a product detect sensor or shaft encoder to the PD/SE socket.</p> <p>The product detect sensor or shaft encoder can be damaged, if the pins on the product detect sensor or shaft encoder plug make contact with the wrong pins on the PD/SE socket.</p> |

Where possible, it is recommended to use a quadrature shaft encoder as an alternative to the single ended encoder.

Note The Ax130i supports external single ended shaft encoders or the internal encoder only. The Ax130i does not support external quadrature shaft encoders.

If the production line stops at the exact point that a single ended encoder detects movement, the encoder can send false movement signals to the printer. If this failure occurs and the printer is printing data from a data buffer, the data buffer can become empty.

Tools required: Metric ruler.

To setup an external single ended shaft encoder to measure the production line movement:

1. Create a test label that includes a text element in the label design, refer to [Create a New Label on page 169](#).
2. In the label creator, select the *Preview* tab at the top of the screen.
3. Make a note of the *Label width* value.
4. Select the *Print* icon, select *Just print* and select *OK*.
5. Select *Home > Production line setup > Line movement*.
6. Select the *START* icon and select *Sequence On*.
7. Select the *Encoder input* drop down setting and select *External*.
8. Select the *Print optimisation* drop down setting and select *Message width*.
9. Scroll to the bottom of the *Line movement* menu, select the *Stroke go multiplier* setting and select *x1*.
10. Select the *Encoder mode* setting and select *Single mode*.
11. Select *Set calibration settings*.
12. To calibrate the shaft encoder, the production line will need to run for a measured distance. Enter the distance that the production line will run for in the *Calibration distance (mm)* setting.

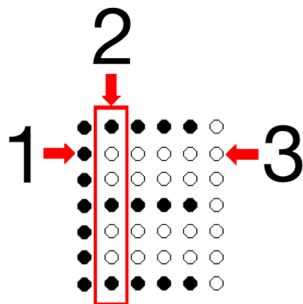
13. Select *Start*.
14. Run the production line over the distance that was set at step (12).
15. Scroll to the bottom of the *Calibration settings* window and note the *Velocity encoder pulse count* value.
16. Enter the *Velocity encoder pulse count* value into the *Calibration pulse count (pulses)* setting.
17. Adjust the *Digital gearbox multiplier* and *Digital Gearbox divider* settings to set the *Encoder stroke resolution* to a value that is close to the values described in the table below.

- Notes
1. Use the lowest possible *Digital gearbox multiplier* value to achieve a good *Encoder stroke resolution* value.
 2. The *Save* button will not be available for selection if the *Encoder stroke resolution (pulses/stroke)* value is too high. The *Encoder stroke resolution (pulses/stroke)* range is 1 - 100.

| Print Application | Encoder Stroke Resolution Value |
|--------------------------------|---------------------------------|
| High Speed Printing. | 10, or close to 10. |
| Medium and Low Speed Printing. | Between 10 and 20. |

18. Select *Save*.
19. Run the production line to make another test print.
20. Measure the width of the test print and inspect the distance between each print stroke. If the width of the test print does not match the value noted at step (3), or if the spaces between print strokes varies, refer to the table below to diagnose and correct the problem.

Note A print stroke is the line of ink drops which make up each printed character as shown in the illustration below.



| # | Explanation |
|---|-----------------|
| 1 | Ink Drop |
| 2 | Print Stroke |
| 3 | Unused Position |

| Problem Description | Reason | Solution |
|--|--|---|
| The width of the test print does not match the <i>Label width</i> value. | The <i>Calibration distance (mm)</i> value is inaccurate. | Repeat step (12) to step (20). |
| | The encoder has stopped at the exact position where a pulse is generated. This will cause the encoder to generate multiple pulses when the encoder is not moving and create an inaccurate <i>Velocity encoder pulse count</i> value. | Repeat step (12) to step (20). Use the equation below to calculate the correct <i>Calibration pulse count (pulses)</i> value. $N = O \times (E \div P)$ N = New pulse count (pulses) value O = Old pulse count (pulses) value E = Label width value P = Printed label width |
| | There is noise on the shaft encoder input signal causing false pulses. | Close the <i>Calibration settings</i> window and adjust the <i>Encoder persistence (ms)</i> value. This value sets the length of time the shaft encoder signal must be active for before the printer recognises the signal as valid (Default value: 0.001). Set the persistence value as low as possible. If too high a value is set, the shaft encoder signal may not be detected at high frequencies. |
| The space between each print stroke varies across the test print. | The resolution of the shaft encoder is not accurate enough to measure a consistent stroke go pulse. | Change the <i>Stroke go multiplier</i> setting to x2 and repeat step (11) to step (19). x1 = A stroke go pulse is detected on the rising edge of channel SE_A only. x2 = A stroke go pulse is detected on the rising and falling edge of channel SE_A. |

21. If the width of the label needs to be adjusted to fit the print surface after the shaft encoder has been calibrated, adjust the *Global stroke pitch goal (mm/stroke)* setting to change the distance between print strokes. The default *Global stroke pitch goal (mm/stroke)* value is 0.43 mm.





22. If the *Print Stretch Detected* alert occurs, the bullet points below list several possible solutions to correct the alert:

- Reduce the production line speed.
- Increase the label's *Stroke pitch (mm/stroke)* value, see [Edit a Label Layout on page 170](#).
- Reduce the label's *Type* setting to enable the label to be printed faster, see [Edit a Label Layout on page 170](#).
- If some print stretch is acceptable, adjust the *Print stretch threshold (mm)* setting (not available for Ax130i). This setting will adjust the amount of print stretch allowed before the alert is triggered.

INSTALLATION

- If print stretch is acceptable, the alert can be disabled (not available for Ax130i). Select *Home > Setup > Alert configuration > Configure alerts* and un-tick *Print Stretch Detected*.

External Quadrature Shaft Encoder Setup

| WARNING | Hazardous Chemicals. Risk of eye and skin damage. |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION | Miss-connection Hazard. Risk of Equipment Damage. |
|  | <p>Shut down the printer and disconnect the power lead from the rear of the printer before connecting a product detect sensor or shaft encoder to the PD/SE socket.</p> <p>The product detect sensor or shaft encoder can be damaged, if the pins on the product detect sensor or shaft encoder plug make contact with the wrong pins on the PD/SE socket.</p> |

Note The Ax130i supports external single ended shaft encoders or the internal encoder only. The Ax130i does not support external quadrature shaft encoders.

If the production line can change direction, a quadrature shaft encoder can be used to measure the production line speed and detect the direction of travel. Four different encoder modes are available to define the printer's behaviour when the direction changes.

A quadrature shaft encoder will also guarantee that the printer does not receive false production line movement signals when the production line is stationary.

Tools required: Metric ruler.

To setup an external single ended shaft encoder to measure the production line movement:

1. Create a test label that includes a text element in the label design, refer to [Create a New Label on page 169](#).
2. In the label creator, select the *Preview* tab at the top of the screen.
3. Make a note of the *Label width* value.
4. Select the *Print* icon, select *Just print* and select *OK*.
5. Select *Home > Production line setup > Line movement*.
6. Select the *START* icon and select *Sequence On*.
7. Select the *Encoder input* drop down setting and select *External*.
8. Select the *Print optimisation* drop down setting and select *Message width*.
9. Scroll to the bottom of the *Line movement* menu, select the *Stroke go multiplier* setting and select *x1*.
10. Select *Set calibration settings*.
11. To calibrate the shaft encoder, the production line will need to run for a measured distance. Enter the distance that the production line will run for in the *Calibration distance (mm)* setting.
12. Select *Start*.

INSTALLATION

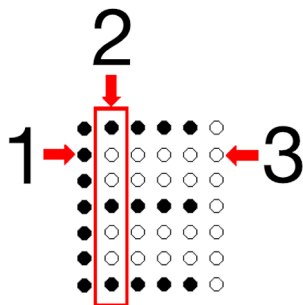
13. Run the production line over the distance that was set at step (11).
14. Scroll to the bottom of the *Calibration settings* window and note the *Velocity encoder pulse count* value.
15. Scroll to the top of the *Calibration settings* window and enter the *Velocity encoder pulse count* value into the *Calibration pulse count (pulses)* setting.
16. Adjust the *Digital gearbox multiplier* and *Digital Gearbox divider* settings to set the *Encoder stroke resolution* to a value that is close to the values described in the table below.

- Notes
1. Use the lowest possible *Digital gearbox multiplier* value to achieve a good *Encoder stroke resolution* value.
 2. The *Save* button will not be available for selection if the *Encoder stroke resolution (pulses/stroke)* value is too high. The *Encoder stroke resolution (pulses/stroke)* range is 1 - 100.

| Print Application | Encoder Stroke Resolution Value |
|--------------------------------|---------------------------------|
| High Speed Printing. | 10, or close to 10. |
| Medium and Low Speed Printing. | Between 10 and 20. |

17. Select *Save*.
18. Run the production line to make another test print.
19. Measure the width of the test print and inspect the distance between each print stroke. If the width of the test print does not match the value noted at step (3), or if the spaces between print strokes varies, refer to the table below to diagnose and correct the problem.

Note A print stroke is the line of ink drops which make up each printed character as shown in the illustration below.



| # | Explanation |
|---|-----------------|
| 1 | Ink Drop |
| 2 | Print Stroke |
| 3 | Unused Position |

| Problem Description | Reason | Solution |
|--|---|---|
| The width of the test print does not match the <i>Label width</i> value. | The <i>Calibration distance (mm)</i> value is inaccurate. | Set an encoder mode that uses both encoder channels, see Encoder Mode Setup on page 115 . |
| | | Repeat step (11) to step (19). Use the equation below to calculate the correct <i>Calibration pulse count (pulses)</i> value. $N = O \times (E \div P)$ N = New pulse count (pulses) value O = Old pulse count (pulses) value E = Label width value P = Printed label width |
| | There is noise on the shaft encoder input signal causing false pulses. | Close the <i>Calibration settings</i> window and adjust the <i>Encoder persistence (ms)</i> value. This value sets the length of time the shaft encoder signal must be active for before the printer recognises the signal as valid (Default value: 0.001). Note Set the persistence value as low as possible. If too high a value is set, the shaft encoder signal may not be detected at high frequencies. |
| The space between each print stroke varies across the test print. | The resolution of the shaft encoder is not accurate enough to measure a consistent stroke go pulse. | Change the <i>Stroke go multiplier</i> setting to x2 and repeat step (11) to step (19). x1 = A stroke go pulse is detected on the rising edge of channel SE_A only. x2 = A stroke go pulse is detected on the rising and falling edge of channel SE_A. |

20. If the width of the label needs to be adjusted to fit the print surface after the shaft encoder has been calibrated, adjust the *Global stroke pitch goal (mm/stroke)* setting to change the distance between print strokes. The default *Global stroke pitch goal (mm/stroke)* value is 0.43 mm.

21. If the *Print Stretch Detected* alert occurs, the bullet points below list several possible solutions to correct the alert:

- Reduce the production line speed.
- Increase the label's *Stroke pitch (mm/stroke)* value, see [Edit a Label Layout on page 170](#).

INSTALLATION

- Reduce the label's *Type* setting to enable the label to be printed faster, see [Edit a Label Layout on page 170](#).
- If some print stretch is acceptable, adjust the *Print stretch threshold (mm)* setting (not available for Ax130i). This setting will adjust the amount of print stretch allowed before the alert is triggered.
- If print stretch is acceptable, the alert can be disabled (not available for Ax130i). Select *Home > Setup > Alert configuration > Configure alerts* and un-tick *Print Stretch Detected*.

Encoder Mode Setup

WARNING

Hazardous Chemicals. Risk of eye and skin damage.



Wear protective equipment such as gloves and glasses when near the printer.

Contact with chemicals can cause skin or eye damage.



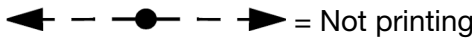
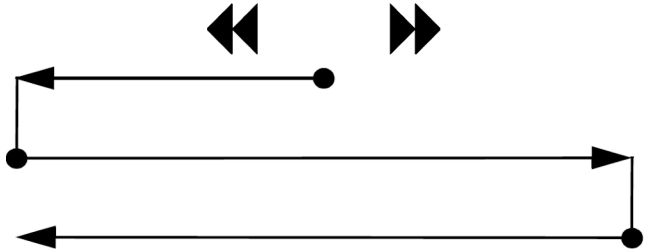
Refer to Safety Data Sheet.




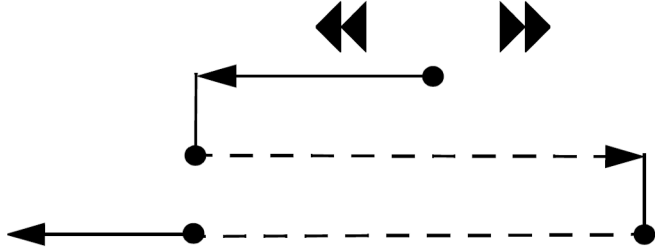



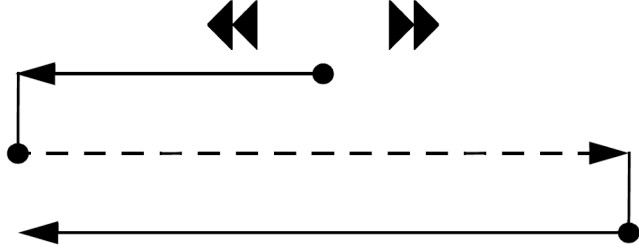
The Encoder mode setting defines the printer's behaviour when the direction of production line changes.



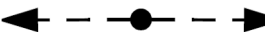
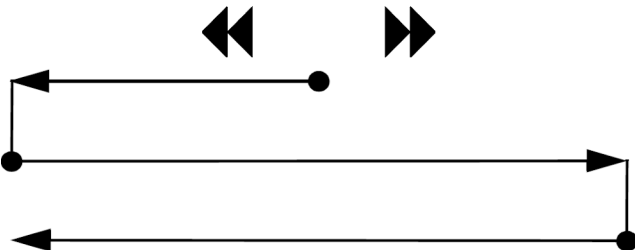
- Notes
1. A quadrature shaft encoder is needed to detect the production line direction. Single ended shaft encoders cannot detect the production line direction.
 2. This feature is not available for Ax130i.

To set the encoder mode:

1. Select *Home > Setup > Production line setup > Line movement*.
2. Select the *Encoder mode* drop down setting.
3. Select one of the settings described below:

| Setting Name | Explanation |
|--------------|--|
| Single mode | <p>Select <i>Single mode</i> when a single channel shaft encoder is connected to the printer.</p> <p>The printer will be unable to detect the production line direction and printing will occur in both directions. If a quadrature shaft encoder is connected, the second input signal will be ignored.</p> <p>Symbols:</p> <p>  = Production line direction  = Printing  = Not printing </p> <p>Diagram:</p>  |

| Setting Name | Explanation |
|---------------------|--|
| Backlash mode | <p>Printing will only occur when the production line moves in the forward direction.</p> <p>When the production line moves backward, printing is paused and a count of backward encoder pulses (Current backlash count) will begin.</p> <p>When the production line moves forward again, the backlash count will count down until the count reaches zero. Printing will resume at this point. This enables printing to resume at the point it was paused.</p> <p>Printing will not occur in the forward direction if the current backlash count is positive.</p> |
| | <p>Symbols:</p> <p>  = Production line direction  = Printing  = Not printing </p> |
| | <p>Diagram:</p>  |
| Backlash suppressed | <p>Printing will only occur when the production line moves in the forward direction.</p> <p>When the production line moves backward, printing is paused.</p> <p>Printing will resume as soon as the production line moves in the forward direction again.</p> |
| | <p>Symbols:</p> <p>  = Production line direction  = Printing  = Not printing </p> |
| | <p>Diagram:</p>  |

| Setting Name | Explanation |
|------------------|--|
| Backlash forward | <p>This setting is similar to single mode. However, both signals from the quadrature shaft encoder will be read. Backward movement will be treated the same as forward movement, printing will occur in both directions.</p> <p>Symbols:</p> <p>  = Production line direction  = Printing  = Not printing </p> <p>Diagram:</p>  |

- Select the Backlash direction drop down setting and select which direction the shaft encoder will detect as forward:




| Backlash Direction | Explanation |
|--------------------|--|
| A leads B | Forward movement will be detected when the shaft encoder turns clockwise. |
| B leads A | Forward movement will be detected when the shaft encoder turns anti-clockwise. |

Stroke Release Mode

This setting defines the stroke release, or time of flight compensation mode. Do not adjust this setting unless there is a problem with print quality.

For the purpose of this setting, time of flight is defined as the time period between an ink drop breaking off from the ink jet, and an ink drop making contact with a specific point on the print surface. The time of flight correction value changes as the production line accelerates and decelerates. The stroke release mode setting can be enabled to calculate the time of flight, so the printer can accurately position each print stroke.

Stroke Release Mode Setup

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

To set the stroke release mode:






1. Select *Home > Setup > Production line setup > Line movement*.
2. Select the *Stroke Release mode* drop down setting.
3. Select one of the settings described below:

| Setting Name | Explanation |
|-------------------|---|
| Off | Do not correct the print stroke release for the time of flight. |
| Continuous | Continuously correct each print stroke release (default setting). |
| First stroke only | Make a correction for the first stroke of each printed label, but do not make any corrections during the print. |

Setup Notes

The printer will be unable to correctly calculate the time of flight if the shaft encoder is inaccurate. Therefore, set the *Stroke release mode* to *First stroke only*. If the print quality does not improve, set the *Stroke release mode* to *Off*.

Other setup notes are listed in the table below:

| Print Examples | Recommendations |
|---|--|
|  | No action required. |
|  | Set <i>Stroke release mode</i> to <i>First stroke only</i> . |
|  | Set <i>Print optimisation mode</i> (not available for Ax130i) to <i>Stroke pitch</i> . Increase <i>Encoder stroke resolution</i> value. |
|  | Set <i>Stroke release mode</i> to <i>Continuous</i> . |
|  | |




Print Trigger

Printing can be triggered by one of two different methods which are described in the table below.

Note It is recommended to use the external print trigger if the space between products varies on the production line.

| Print Trigger Method | Explanation |
|----------------------|--|
| Internal | Generate a simulated print trigger signal internally at fixed distance intervals. To setup an internal print trigger, see Internal Print Trigger Setup on page 120 . |
| External | Use an external product sensor to generate a print trigger signal. To setup an external print trigger, see External Print Trigger Setup on page 121 . |

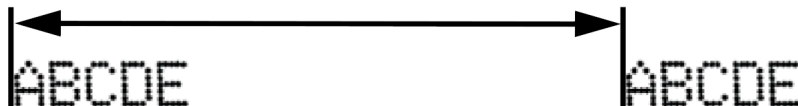
Internal Print Trigger Setup

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|--|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

To setup a simulated internal print trigger signal at fixed distance intervals:




1. On the TouchScreen, select *Home > Setup > Production line setup > Print trigger*.
2. Select the *Trigger by* drop down setting and select *Internal*.
3. Select the *Print delay (mm)* setting and set the delay for the first label after a production run begins.
4. Select the *Distance interval (mm)* setting and set the distance between each printed label.

Note The distance interval is measured from the start of one label to the start of the next label.



5. If the “Print trigger occurred while printing” alert is displayed, increase the *Distance interval (mm)* value so that it is larger than the width of the label.

External Print Trigger Setup

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|---|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Miss-connection Hazard. Risk of Equipment Damage. | |
|  | <p>Shut down the printer and disconnect the power lead from the rear of the printer before connecting a product detect sensor or shaft encoder to the PD/SE socket.</p> <p>The product detect sensor or shaft encoder can be damaged, if the pins on the product detect sensor or shaft encoder plug make contact with the wrong pins on the PD/SE socket.</p> |

To setup an external print trigger:

1. On the TouchScreen, select *Home > Setup > Production line setup > Print trigger*.
2. Select the *Trigger by* drop down setting and select *External*.
3. Check how the print trigger signal is generated. Set the unit of measurement for the *Product detect persistence* value correctly, as described in the table below:

Note The unit of measurement can only be changed by a certified engineer with a USB key.

| Print Trigger Setup Input Source | Unit of Measurement |
|--|---------------------|
| Generated by a Product Detect Sensor: For example, a photo sensor on the production line that detects physical products. | By Distance |
| Generated by an external machine: For example, an extrusion line set to generate a print trigger after every meter of material has been extruded. | By Time |

4. Select the *Active level* drop down setting and select whether a *High* or *Low* input signal will trigger a print.

Note *Current level* displays the current print trigger input signal level, either high or low.

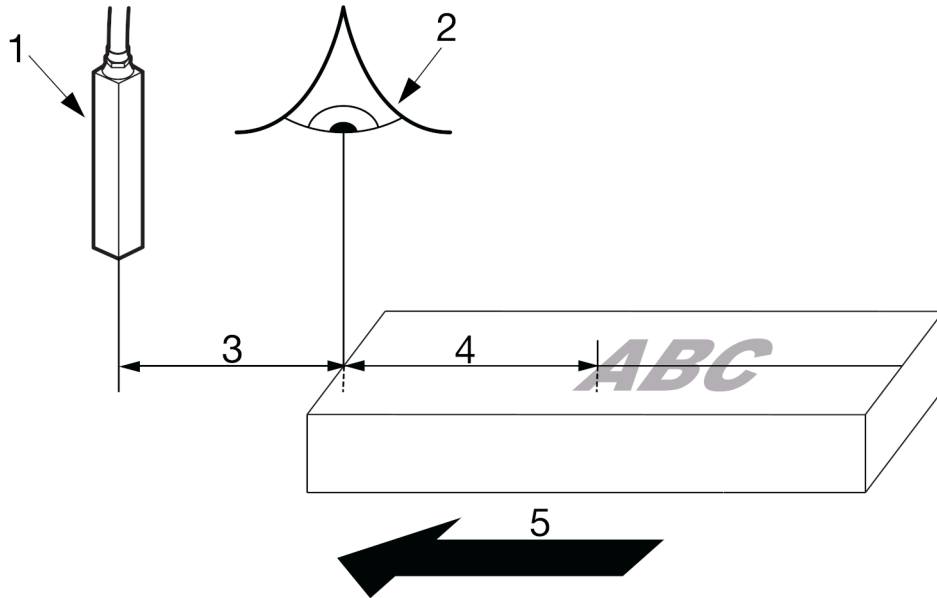
5. Select the *Print delay (mm)* setting and set the distance the product will move past the product detect sensor before the label is printed.

Notes

1. Use the Offset settings described on [Print Offset on page 220](#) to accurately position the label on the product.
2. The *Print delay (mm)* range depends on the printer configuration.

INSTALLATION

3. If the “Print delay too short” error occurs, increase the *Print delay (mm)* value. Or move the product sensor further away from the print head.
4. On a very high speed production line, ensure the print head and product sensor are one product apart to allow a good amount of delay. A print delay of 30 mm is recommended.



| # | Explanation |
|---|--|
| 1 | Print Head |
| 2 | Product Detect Sensor |
| 3 | Print Delay (mm) |
| 4 | Print Offset (See Print Offset on page 220) |
| 5 | Direction of Travel |

6. If there is more than 1 product between the product detect sensor and print head, the *Product queue depth* setting should be adjusted to a value at least three more than the maximum number of products between the print head and product detect sensor to ensure reliable operation.
7. If required, the *Product detect persistence (mm)* setting can be set to ensure that any noise on the product detect input signal does not create false product detect triggers. The product detect signal must be active longer than the *Product detect persistence* value before the signal is recognised as valid (Default value: 1 mm).

- Notes
1. Set the *Product detect persistence* value as low as possible. If a high value is set then the accuracy of *Print delay* setting will be affected.
 2. The *Product detect persistence* value applies to both edges of the product detect/print trigger signal (high and low edge). Make sure that the *Product detect persistence* value is always smaller than the product detect/print trigger signal length in both the high and low states.

Product Queue Depth

Note This feature is not available for Ax130i.

The *Product queue depth* setting enables the printer to react to more than 1 print trigger signal. This will enable there to be more than one product between the print head and product detect sensor.

Each print trigger signal is serviced by its own independent counter that counts down the distance between the product and the print head.

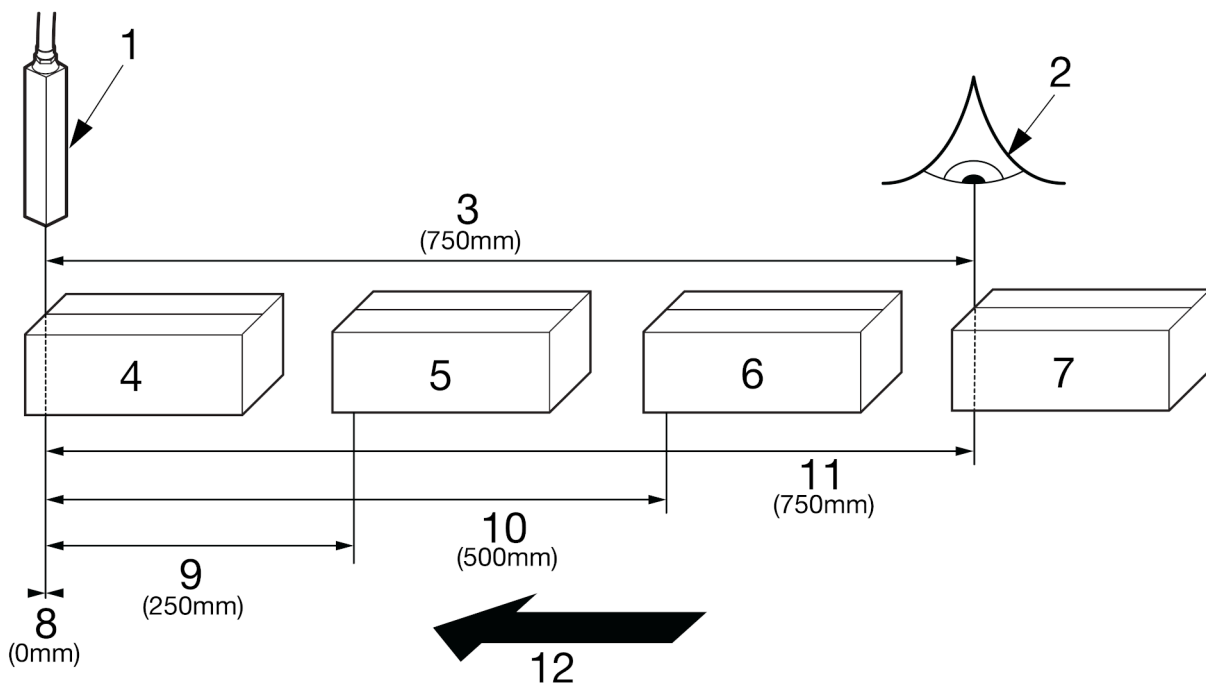
It is recommended to use a quadrature shaft encoder when using product queue depth. If a single ended shaft encoder is used and the production line stops at the exact point a shaft encoder signal is generated, false movement information will be sent to the printer. This will cause any labels in the print queue to be printed unintentionally.

Ensure that only one print trigger signal is received for each product.

Ensure that the *Product queue depth* value is set to at least 3 more than the maximum number of products that can come between the product detect sensor and print head.

The *Product queue depth* setting can be found by selecting *Home > Setup > Production line setup > Print trigger*.

In the example below, the *Print delay (mm)* value is set to 750 mm. There are four products between the print head and product detect sensor, so the recommended *Product queue depth* value is seven.



| # | Explanation |
|---|-----------------------|
| 1 | Print Head |
| 2 | Product Detect Sensor |
| 3 | Print Delay (mm) |

INSTALLATION

| # | Explanation |
|----|---------------------|
| 4 | Product 1 |
| 5 | Product 2 |
| 6 | Product 3 |
| 7 | Product 4 |
| 8 | Counter 1 |
| 9 | Counter 2 |
| 10 | Counter 3 |
| 11 | Counter 4 |
| 12 | Direction of Travel |

INK JET THROW DISTANCE SETUP (I-PULSE/I-PULSE2/I-PULSE RS)

WARNING

Hazardous Chemicals. Risk of eye and skin damage.



Wear protective equipment such as gloves and glasses when near the printer.

Contact with chemicals can cause skin or eye damage.

Refer to Safety Data Sheet.

The throw distance setting is used to define the distance between the bottom of the print head and the print surface.

Tools required: Metric ruler.

To setup the throw distance:

1. Measure the distance between the bottom of the print head and the print surface.
2. If it is possible, position the print head to the recommended distance away from the print surface as described in the table below.

Note For Ax150i, Ax350i and Ax550i, the nozzle diameter of the printer can be found on the TouchScreen by selecting *Home > Setup > System information* and viewing the *Nozzle diameter (μm)* value.

| Nozzle Diameter | Recommended Throw Distance |
|-----------------|----------------------------|
| 75 micron | 14 mm |
| 60 micron | 8 mm |
| 50 micron | 6 mm |
| 40 micron | 4 mm |

3. On the TouchScreen, select *Home > Setup > Production line setup > Print trigger*.
4. Scroll down to the *Throw distance (mm)* setting and select it.
5. Enter the actual distance between the bottom of the print head and the print surface.
6. Select the green *Tick* icon.

INK JET THROW DISTANCE SETUP (I-PULSE DUO)

WARNING
Hazardous Chemicals. Risk of eye and skin damage.


Wear protective equipment such as gloves and glasses when near the printer.

Contact with chemicals can cause skin or eye damage.

Refer to Safety Data Sheet.

The throw distance setting is used to define the distance between the bottom of the print head and the print surface. Two different distances are recommended for i-Pulse Duo print heads depending on the application:

| Application Type | Description |
|------------------|---|
| Stitched | The two ink jets will be stitched together to create one large label. |
| Standard | The two ink jets will print separately. |

Tools required: Metric ruler.

To setup the throw distance:

1. Measure the distance between the bottom of the print head and the print surface.
2. If it is possible, position the print head to the recommended distance away from the print surface as described in the table below.

Note The nozzle diameter of the printer can be found on the TouchScreen by selecting *Home > Setup > System information* and viewing the *Nozzle diameter (µm)* value.

| Nozzle Diameter | Recommended Throw Distance for Standard Labels | Recommended Throw Distance for Stitched Labels |
|-----------------|--|--|
| 75 micron | 14 mm | 20 mm |
| 60 micron | 8 mm | 12 mm |

3. On the TouchScreen, select *Home > Setup > Production line setup > Print trigger*.
4. Scroll down to the *Throw distance (mm)* setting and select it.
5. Enter the actual distance between the bottom of the print head and the print surface.
6. Select the green *Tick* icon.

INK JET VELOCITY SETUP

WARNING

Hazardous Chemicals. Risk of eye and skin damage.



Wear protective equipment such as gloves and glasses when near the printer.

Contact with chemicals can cause skin or eye damage.

Refer to Safety Data Sheet.

The *Jet velocity (mm/s)* setting is used to define the velocity of the ink drops between the nozzle and the print surface. However, it is recommended to leave this value at the default setting.

To setup the ink jet velocity:

1. On the TouchScreen, select *Home > Setup > Production line setup > Print trigger*.
2. Scroll down to the *Jet velocity (mm/s)* setting and select it.
3. Enter a jet velocity value (Range: 15000 - 25000).
4. Select the green *Tick* icon.

PRODUCT MONITOR

- Notes
1. This feature was added in software version 01.41.0623
 2. This feature is not available on the Ax130i.

The product monitor is a feature that watches the product detect and encoder signals. It is designed to raise an operator alert and generate output signals for a PLC if a print is missed.

The specific events that will trigger an output or alert are listed below:

- No product trigger in specified distance
- Multiple product triggers within specified distance
- Product triggers with no encoder movement.

To change the severity of these alerts (Red or Amber), select *Home > Setup > Alert configuration > Configure alerts*.

To enable and setup the product monitor:

1. Select *Home > Setup > Production line setup > Product monitor*.
2. Tick the *Enable product monitoring tick box*.
3. Select *OK* to switch the product detect persistence from being measured “by distance” to being measured “by time”. If *Cancel* is selected, the product monitor will not be enabled.

Note Check the *Product detect persistence* settings in the *Print trigger* tab. See [External Print Trigger Setup on page 121](#).

4. Configure the settings listed in the table below:

| Setting Name | Explanation |
|------------------------------|--|
| Product repeat distance (mm) | If any event listed below occurs during the specified distance, an alert will be triggered and output signal can be triggered: <ul style="list-style-type: none"> • No product trigger in specified distance. • Multiple product triggers within specified distance. |
| Product tolerance (mm +/-) | Set a tolerance for the product repeat distance setting. |

5. The icons listed below can be used to visually check product movement (shaft encoder) and product detect/print trigger signals:

| Setting Name | Explanation |
|-----------------------------|--|
| Encoder active - SE | The “SE” icon will turn green to indicate that product movement is currently being detected by the shaft encoder. |
| Product trigger active - PT | The “PT” icon will turn green to indicate that a print trigger/product detect signal is received from the product detect sensor. |

6. To set the output signals, see [Outputs on page 340](#).

PRINT HEIGHT CALIBRATION WIZARD

WARNING

Hazardous Chemicals. Risk of eye and skin damage.



Wear protective equipment such as gloves and glasses when near the printer.

Contact with chemicals can cause skin or eye damage.

Refer to Safety Data Sheet.

Note This feature is not available for Ax130i.

The print height calibration wizard is a tool which is used to set the optimum default print height.

Tools required: Metric ruler.

To run the print height calibration wizard:

1. Check that the print head is set to the correct distance away from the print surface. The print head distance can be set by following the Ink Jet Throw Distance procedure:

| Print Head Type | Ink Jet Throw Distance Procedure |
|----------------------------------|---|
| i-Pulse, i-Pulse2 and i-Pulse RS | Ink Jet Throw Distance Setup (i-Pulse/i-Pulse2/i-Pulse RS) on page 125. |
| i-Pulse Duo | Ink Jet Throw Distance Setup (i-Pulse Duo) on page 126. |

2. If the ink jet is not already running, press the *Start/Stop* button on the printer cabinet and wait for the ink jet to sequence on.
3. On the TouchScreen, select *Home > Setup > Wizards > Print height calibration*.
4. Check that the print quality metrics listed on the TouchScreen have green ticks next to them. If any of the items are marked with a red cross, wait a few minutes to see if the ink system stabilises and a green tick appears. If the red cross remains, an engineer certified by Domino can investigate the fault.
5. Select the *Next Screen* icon.
6. Select *Testing raster* and select a suitable raster to test.
7. Select *Test print* and run the production line to make a test print.
8. The printer will print the letter H. Measure the height of the printed letter H in millimetres.
9. Enter the measured height of the printed letter H in the *Measured print height (mm)* setting.
10. If the measured print height is different from the expected height, the printer will recommend a different charge scaling (%) value. Select *Apply* to apply the recommended value and double check the print height by repeating step (7) to step (10).
11. Select *Complete*.

MODULATION MODE SETUP

The point at which the ink jet breaks up into individual drops of ink within the print head charge electrode is controlled by the electrical voltage that is applied to the drop generator crystals. This voltage is called the “modulation voltage”.

The modulation voltage can be set manually, and controlled automatically by different modulation modes in the printer’s software.

To set the modulation mode:

1. Select *Home > Setup > Adjustment > Modulation*.
2. Choose a *Modulation mode* from the drop down setting:

| Modulation Mode | Description |
|-----------------|---|
| Fixed | <p>Note Use this setting to manually find the best modulation set point for the current environmental conditions. Do not leave the modulation mode set to “Fixed” permanently.</p> <p>To manually find and set the modulation set point:</p> <ol style="list-style-type: none"> 1. Print a test label. 2. Increase the <i>Modulation set point</i> in 10 V steps until the print quality goes bad. 3. Make a note of the <i>Modulation set point</i> value. 4. Reduce the <i>Modulation set point</i> by 10 V, then continue to reduce the set point in 1 V steps until the print quality goes bad. 5. Made a note of the <i>Modulation set point</i> value. 6. Set the <i>Modulation set point</i> in the middle value of the two values that you noted. 7. Change the <i>Modulation mode</i> to <i>Auto</i> or <i>Dynamic</i>. <p>The modulation set point should now be correctly set.</p> |
| Auto | <p>In <i>Auto</i> mode, when the printer is turned on, the printer will automatically find the modulation set point for the current environmental conditions. The printer will maintain this set point until it is re-started, or it is manually reset using <i>Fixed</i> mode.</p> |
| Dynamic | <p>Note This setting is only available on the Ax130i.</p> <p>In <i>Dynamic</i> mode, the printer will automatically find and adjust the modulation set point as the environmental conditions change. It is recommended to use this setting in hot environments (above 42 °C) or in environments where the temperature varies.</p> |

NETWORK SETUP

Note This feature is not available for Ax130i.

The printer can be fully controlled over a network connection using:

- A PC which has Domino QuickStep software installed
- A PC's web browser
- The printer's TouchScreen.

TouchScreens can also be used to control other printers on the same network.

Only 1 printer can be controlled at the same time.

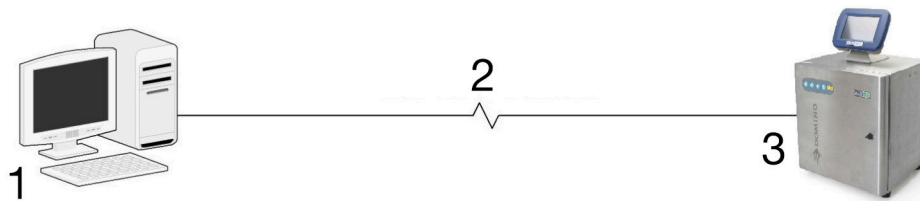
Network Connectivity Diagrams

Note This feature is not available for Ax130i.

Printers can be connected to a network as illustrated in the diagrams below.

Single Printer to Single PC NOT Connected to Network

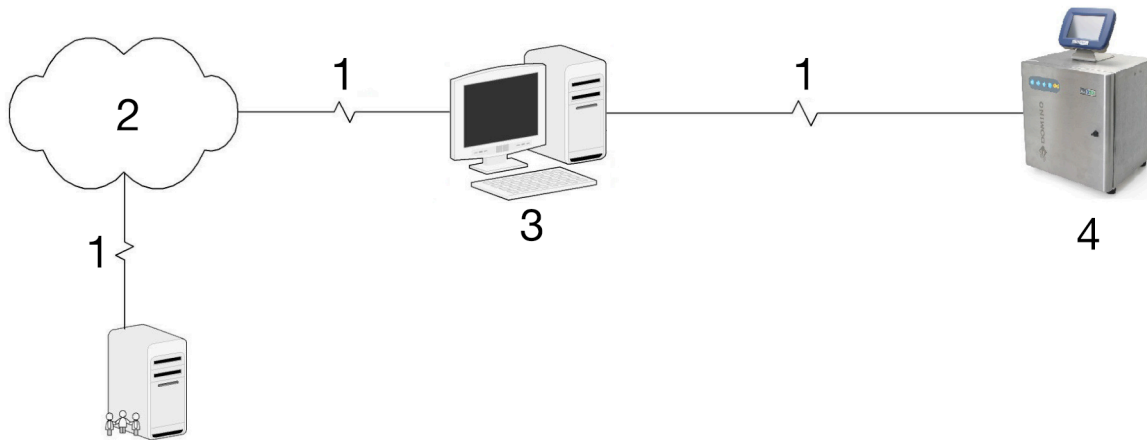
Note Maximum 1 printer.



| # | Explanation |
|---|---|
| 1 | Standard PC, IP Address Fixed (192.168.1.a) |
| 2 | Cat.5 UTP RJ45 Cable |
| 3 | Printer, IP Address Fixed (192.168.1.b) |

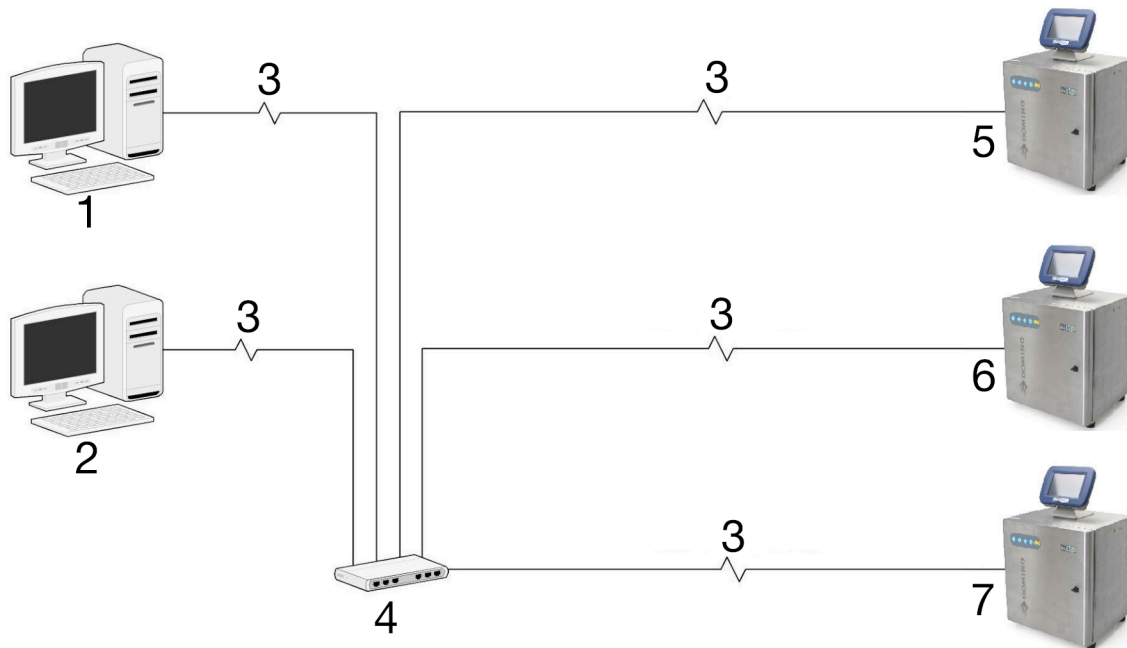
Single Printer to Single PC Connected to Network

Note Maximum 1 printer.



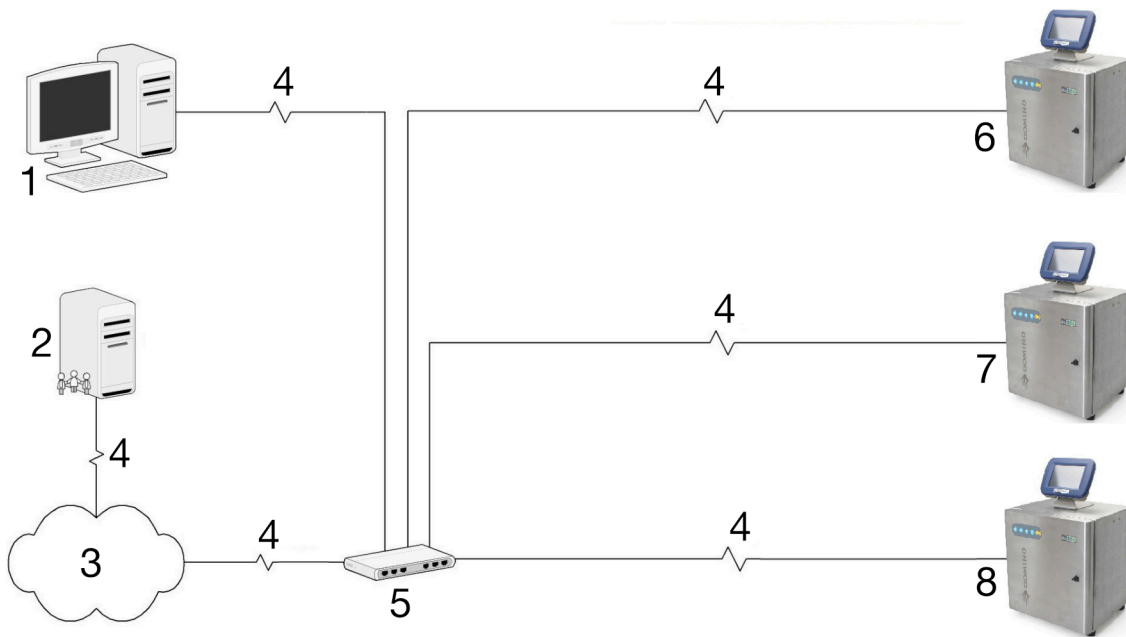
| # | Explanation |
|---|---|
| 1 | Cat.5 UTP RJ45 Cable |
| 2 | Network |
| 3 | Standard PC fitted with 2 network cards: <ul style="list-style-type: none"> • Network Card 1, IP Address Fixed (192.168.1.a) • Network Card 2, IP Address Fixed or Dynamic. |
| 4 | Printer, IP Address Fixed (192.168.1.b) |

Multiple Printers to PC through Switch. PC NOT Connected to Network



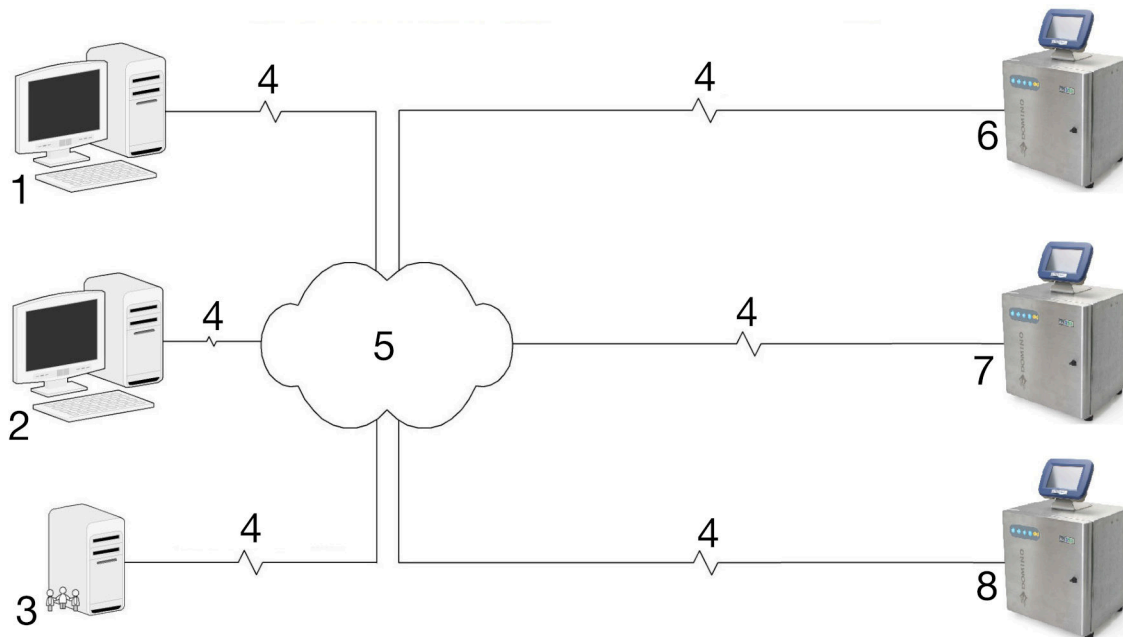
| # | Explanation |
|---|---|
| 1 | Standard PC, IP Address Fixed (192.168.1.a) |
| 2 | Standard PC, IP Address Fixed (192.168.1.b) |
| 3 | Cat.5 UTP RJ45 Cable |
| 4 | 10/100 Ethernet Network Switch |
| 5 | Printer, IP Address Fixed (192.168.1.c) |
| 6 | Printer, IP Address Fixed (192.168.1.d) |
| 7 | Printer, IP Address Fixed (192.168.1.e) |

Multiple Printers to PC through Switch. PC Connected to Network



| # | Explanation |
|---|--|
| 1 | Standard PC, IP Address Fixed or Dynamic (192.168.1.a) |
| 2 | DHCP Network Server |
| 3 | Network |
| 4 | Cat.5 UTP RJ45 Cable |
| 5 | 10/100 Ethernet Network Switch |
| 6 | Printer, IP Address Fixed (192.168.1.b) |
| 7 | Printer, IP Address Fixed (192.168.1.c) |
| 8 | Printer, IP Address Fixed (192.168.1.d) |

Multiple Printers to PC through Network



| # | Explanation |
|---|--|
| 1 | Standard PC, IP Address Fixed or Dynamic (192.168.1.a) |
| 2 | Standard PC, IP Address Fixed or Dynamic (192.168.1.b) |
| 3 | DHCP Network Server |
| 4 | Cat.5 UTP RJ45 Cable |
| 5 | Network |
| 6 | Printer, IP Address Fixed (192.168.1.c) |
| 7 | Printer, IP Address Fixed (192.168.1.d) |
| 8 | Printer, IP Address Fixed (192.168.1.e) |


PC QuickStep to Networked Printer Setup

- Notes
1. This feature is not available for Ax130i.
 2. Restart the printer after changing any network settings to ensure the new settings are saved.

To setup the PC to Printer network settings:

1. Install the QuickStep software on the PC which will be used to control the printer.
2. Ensure the printer is correctly connected to the network.
3. On the printer's TouchScreen, select *Home > Setup > Printer network*.
4. Select *Edit...*
5. Two different actions are available for this step depending on whether the network has a DHCP server enabled or not:

| Network DHCP Server | Required Action |
|---------------------|--|
| Enabled | Ensure that the Enable DHCP tick box is selected. |
| Not Enabled | Ensure that the <i>Enable DHCP</i> tick box is not selected. Change the IP address of the printer so that it is in the same subnet as the PC. For example, if the PC's IP address is 192.168.1.5 change the printer's IP address to 192.168.1.55. |

6. Make a note of the Host name and IP address.
7. Press and hold the  button for 2 seconds and restart the printer.
8. Start the QuickStep software on the PC.
9. Select the *Lock* icon.
10. Select *Unlock UI settings*.
11. Enter the UI password (Default password: QS).
12. Select the green *Tick* icon.
13. Select *OK*.
14. Select the *UI Settings* icon.
15. Select the *Connection Method* drop down setting and select one of the options described below:

| Connection Method | Explanation |
|-------------------|--|
| Broadcast | Automatically search and display a list of the printers available on the network. |
| Favourite | Create a list of favourite printers if there are multiple printers available on the network. |
| Direct | Connect to a single printer on the network. |

INSTALLATION

16. If the Broadcast connection method is used, proceed to step (20). If the Favourite connection method is used, select *Add favourite...* If the Direct connection method is used, select *Add direct...*

17. Enter the following information:

| Connection Method | Explanation |
|-------------------|--|
| Favourite name | Enter the name of the printer. This name will be used to identify the printer in the favourites list. |
| Type | Select the type of printer which the QuickStep emulator is connecting to. For an Ax-Series printer, select <i>CIJ</i> . |
| Enter IP | Select either: <ul style="list-style-type: none">• <i>Manually</i> - To manually enter the printer's IP address• <i>Via broadcast</i> - To search the network for the printer's IP address. |
| Host | Enter the host name. |

18. Select *Save*.

19. Details of the printer will now appear on the screen.

20. Select the *Network* icon in the bottom left corner of the PC's QuickStep programme.

21. Select *Connect* to connect to a printer.

PC Web Browser to Networked Printer Setup


- Notes
1. This feature is not available for Ax130i.
 2. Restart the printer after changing any network settings to ensure the new settings are saved.
-

If the webserver is enabled in the printer's settings, the printer can be controlled from a desktop PC or a laptop using a standard web browser.

Enable Webserver

Note This feature is not available for Ax130i.

To enable the webserver in the printer's settings:

1. Select *Home > Setup > Printer network*.
2. Select *Enable WebServer*.
3. Make a note of the printer's IP address.
4. Press and hold the  button for 2 seconds and restart the printer.

Control the Printer from a PC

Note This feature is not available for Ax130i.

To control the printer using a PC based web browser:

1. Connect the PC to the printer directly via the Ethernet port on the rear of the printer cabinet. Or, ensure that the PC and Printer are both setup and connected to the same network.
2. Power on the printer and start the PC.
3. Open a web browser on the PC.
4. Enter "http://[IP address of the printer]" into the address bar of the web browser.

TouchScreen to Networked Printer Setup

Note This feature is not available for Ax130i.

One TouchScreen can control multiple printers in the same network if required. However, the TouchScreen can only connect to 1 printer at a time.

Create a List of Favourite Printers

Note This feature is not available for Ax130i.

It is recommended to create a list of favourite printers in the TouchScreen if there is more than 1 printer on the same network which the TouchScreen can connect to.

To create a favourite list of the printers:

1. Select the *Lock* icon on the bottom right corner of the TouchScreen.
2. Select *Disconnect from printer*.
3. Select the *Lock* icon on the bottom right corner of the TouchScreen.
4. Select *Unlock UI settings*.
5. Enter the UI password (Default password: QS).
6. Select the green *Tick* icon.
7. Select *OK*.
8. Select *UI Settings*.
9. Select the *Connection Method* drop down setting and select *Favourite*.
10. Select *Add favourite...*
11. Enter the following information:


| Setting Name | Explanation |
|----------------|---|
| Favourite name | Enter the name of the printer. This name will be used to identify the printer in the favourites list. |
| Type | Select the type of printer which the TouchScreen is connecting to. For an Ax-Series printer, select <i>C/IJ</i> . |
| Enter IP | Select either: <ul style="list-style-type: none"> • <i>Manually</i> - To manually enter the printer's IP address • <i>Via broadcast</i> - To search the network for the printer's IP address. |
| IP address | Enter the IP address of the printer. |

12. Select *Save*.

13. The printer's name will now appear on the user interface. The table below explains the next three options:

| Next Option | Explanation |
|--------------------|---|
| Delete the printer | Select the  icon to delete the printer from the favourites list. |

INSTALLATION

| Next Option | Explanation |
|----------------------|--|
| Add another printer | Select <i>Add favourite</i> to add another printer to the favourites list. |
| Connect to a printer | Select the  icon in the bottom left of the TouchScreen screen to view the favourites list and connect to a printer. |

Connect to a Different Printer in the Network

Note This feature is not available for Ax130i.

Details about the printer being controlled can be viewed by selecting *Home > Setup > System Information*.

If a favourite list of printers has been set up, follow the procedure below to connect the TouchScreen to a different printer in the network.

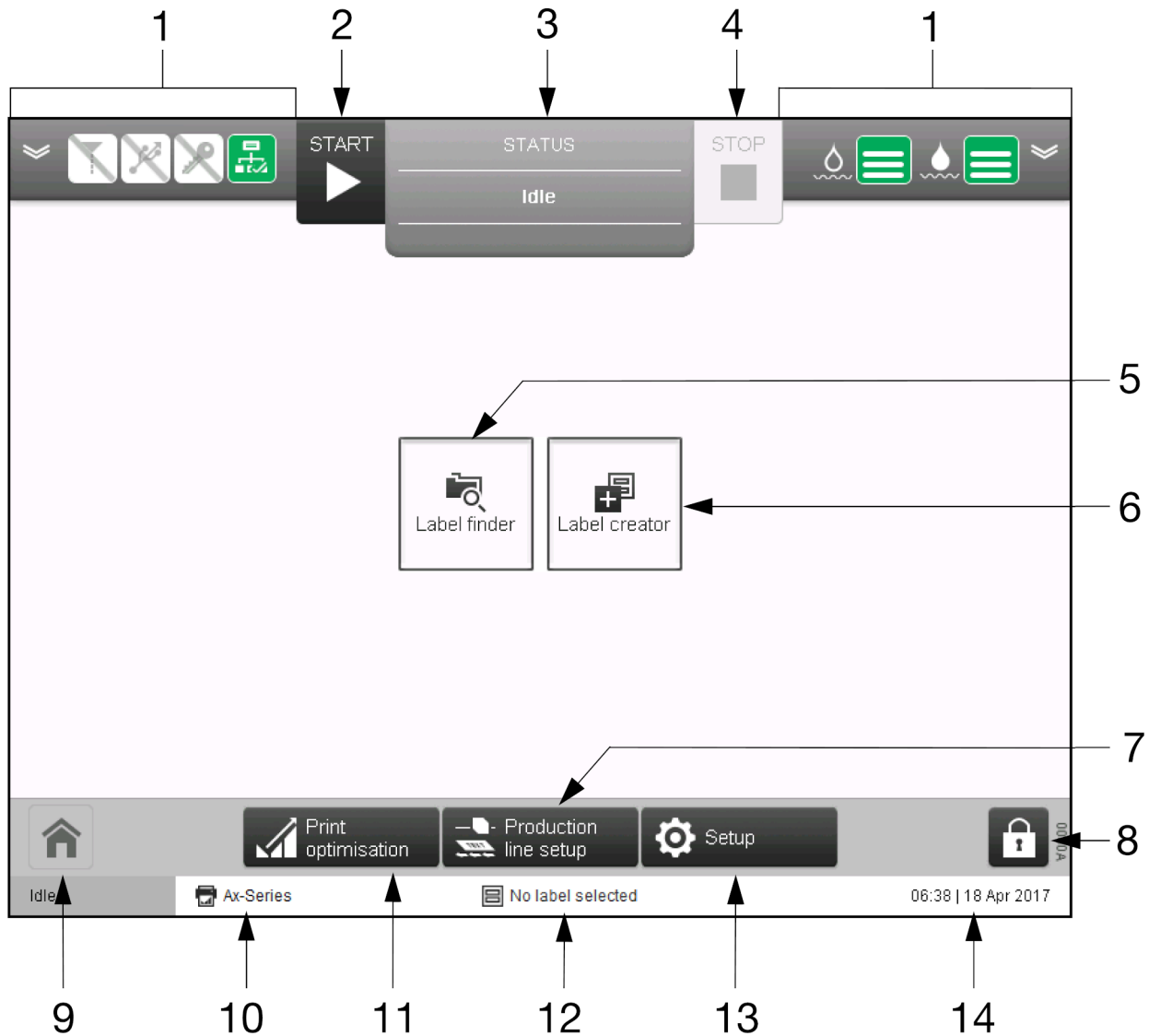
1. Select the *Lock* button.
2. Select *Disconnect from printer*.
3. Select the required printer.

PART 4 OPERATION


QUICKSTEP INTERFACE

Home Screen

When starting the printer, the Home screen below is displayed.



| # | Setting Name | Explanation |
|---|-----------------|--|
| 1 | Information Bar | Displays printer information. See Printer Information Screens on page 151 . |
| 2 | Start | Select <i>Start</i> to sequence the ink jet on and enter the <i>Ready</i> state. When the printer is in the <i>Ready</i> state, the ink jet will be running and the printer will print when it receives the correct print trigger and encoder signals. |

| # | Setting Name | Explanation |
|---|-----------------------|--|
| 3 | Status tab | <p>Displays printer status and alerts. If more than one alert is present, the highest priority alert is displayed.</p> <p>If an alert is displayed, select the Status Tab to show more information and to clear the alert.</p> <p>See Statuses, Alerts and Fault Finding on page 229.</p> |
| 4 | Stop | <p>Select <i>Stop</i> to sequence the printer to one of the following states:</p> <ul style="list-style-type: none"> • <i>Sequence off</i> - The ink jet will stop running. The print head will be flushed to prevent ink from drying and blocking the nozzle or gutter. The printer will turn off • <i>Pause printing</i> - The ink jet will continue running. Printing will be paused. Power to the deflector plates will be stopped • <i>Jet running</i> - The ink jet will continue running. Printing will be paused. There will be no phasing or power to the deflector plates • <i>Phase locked</i> - The ink jet will continue running. Printing will be paused. Modulation and charging will be present, but no power to the deflector plates. |
| 5 | Label finder | <p>Find a saved label from the printer's label store to preview, print or edit.</p> <p>Also, to create and save new labels in any label folder, open a label folder and select the create new label icon:</p>  <p>The ability to create and save labels using the label finder was added in software version 01.41.0505.</p> <p>Note At the time of writing, for Ax130i, it is not possible to create new labels using the label finder.</p> |
| 6 | Label creator | <p>Open the <i>Label Creator</i> to create and save a new label to the default label store.</p> |
| 7 | Production line setup | <p>Open the production line setup screen.</p> <p>See Production Line Setup on page 104.</p> |
| 8 | Lock | <ul style="list-style-type: none"> • Lock the screen to prevent accidental changes • Log the current user out of the user interface (not available for Ax130i) • Disconnect the TouchScreen from the printer (not available for Ax130i) • Change the current user's password (not available for Ax130i). |
| 9 | Home | <p>Press <i>Home</i> at any time to return to this <i>Home</i> Screen.</p> |

OPERATION

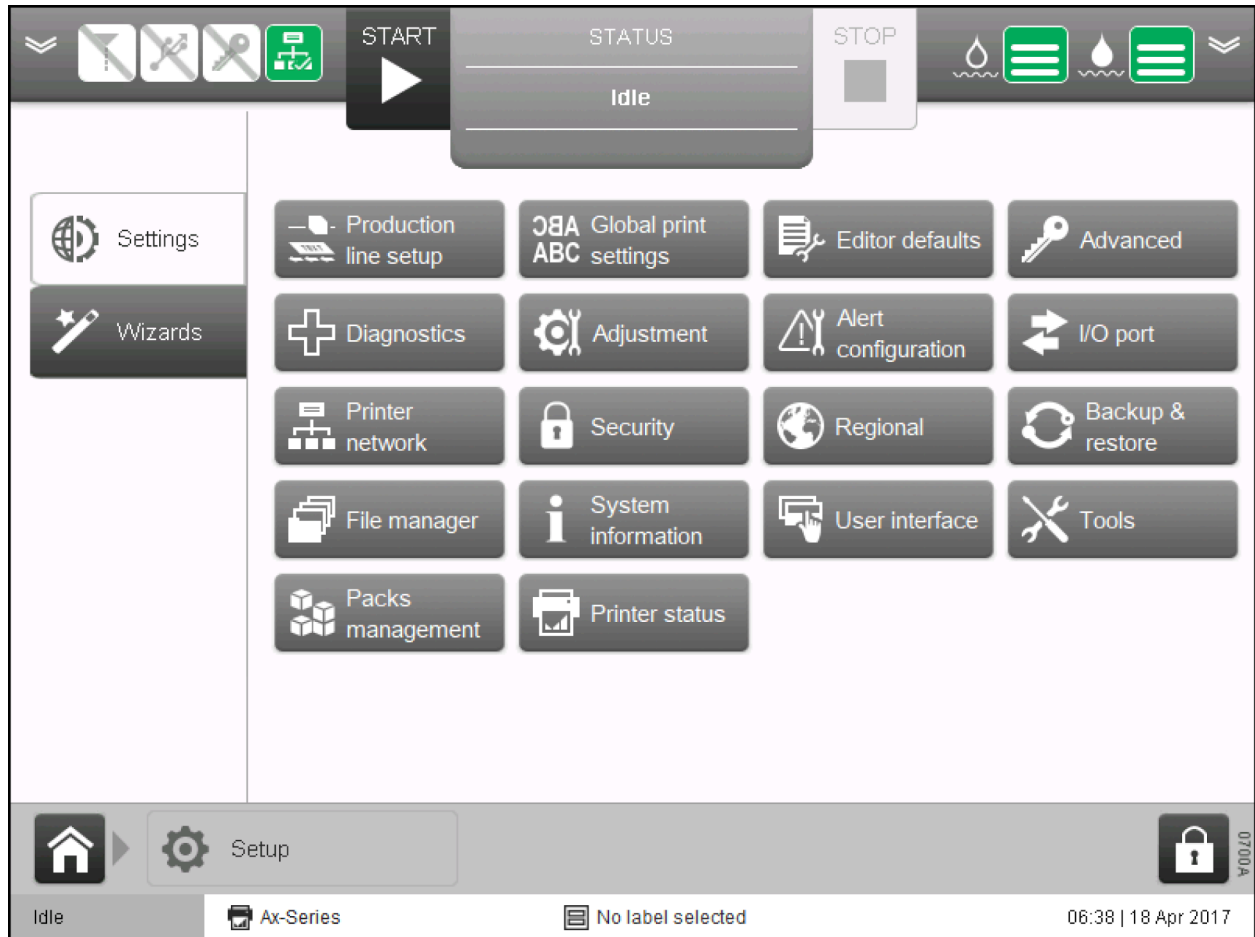
| # | Setting Name | Explanation |
|----|--------------------|---|
| 10 | Printer name | Displays the name of the printer that the user interface is connected to. The name can be changed by selecting <i>Home > Setup > System information</i> and changing the <i>Printer name setting</i> . |
| 11 | Print Optimisation | Open the <i>Print Optimisation</i> screen. See Print Optimisation Screen on page 147 . |
| 12 | Label name | Displays the name of the label which is currently loaded. |
| 13 | Setup | Open the <i>Setup</i> screen. See Setup Screen on page 145 . |
| 14 | Date/time | Displays the current system date/time. |

Setup Screen

The Setup screen contains advanced printer settings, diagnostic tools and wizards.

This screen is accessed by selecting *Setup* on the Home screen.

The following illustration shows the Setup screen.

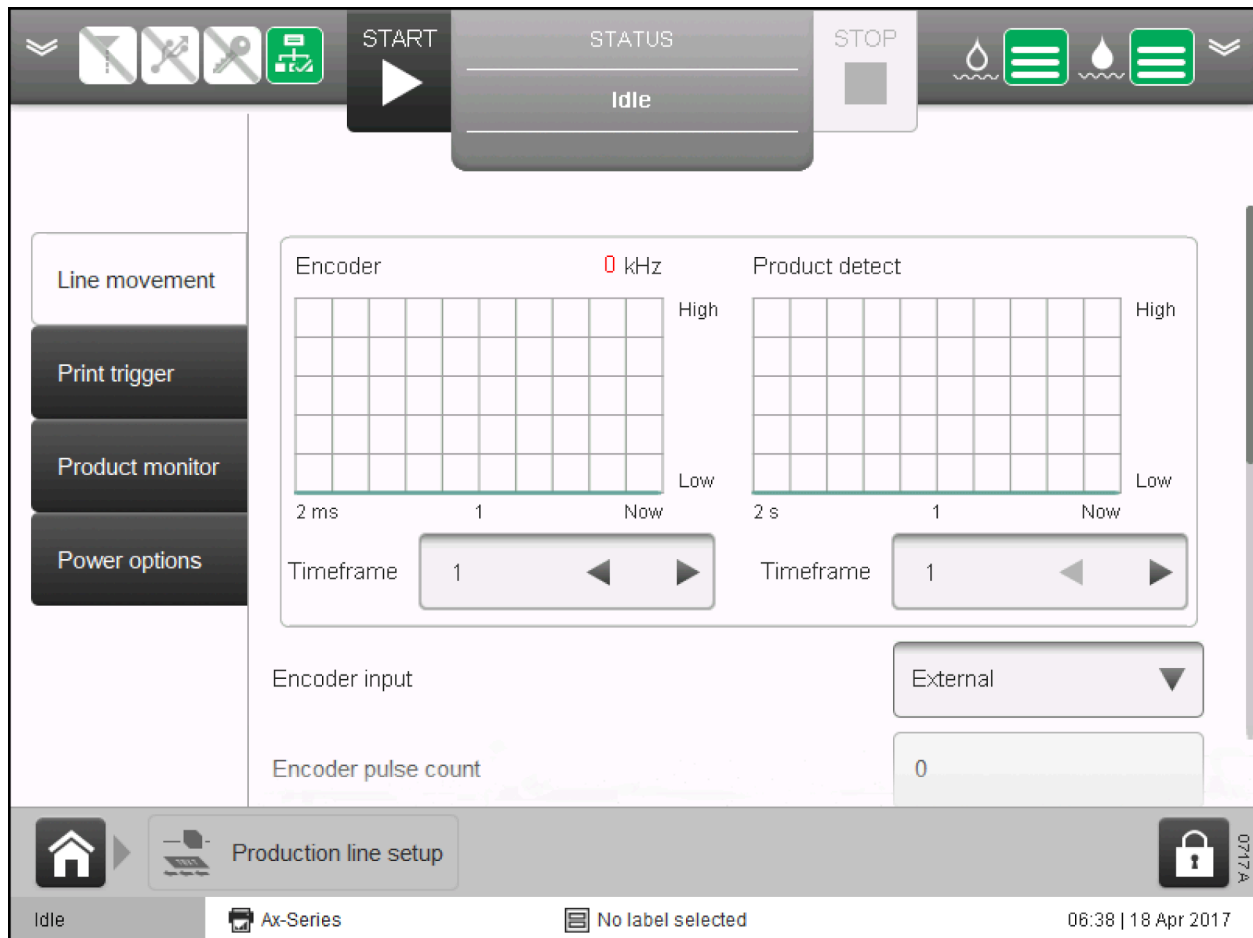


Production Line Setup Screen

The Production Line Setup screen contains print trigger, encoder and power settings which should be configured during printer installation. See [Production Line Setup on page 104](#).

This screen is accessed by selecting *Production Line Setup* on the Home screen.

The following illustration shows the Production Line Setup screen.

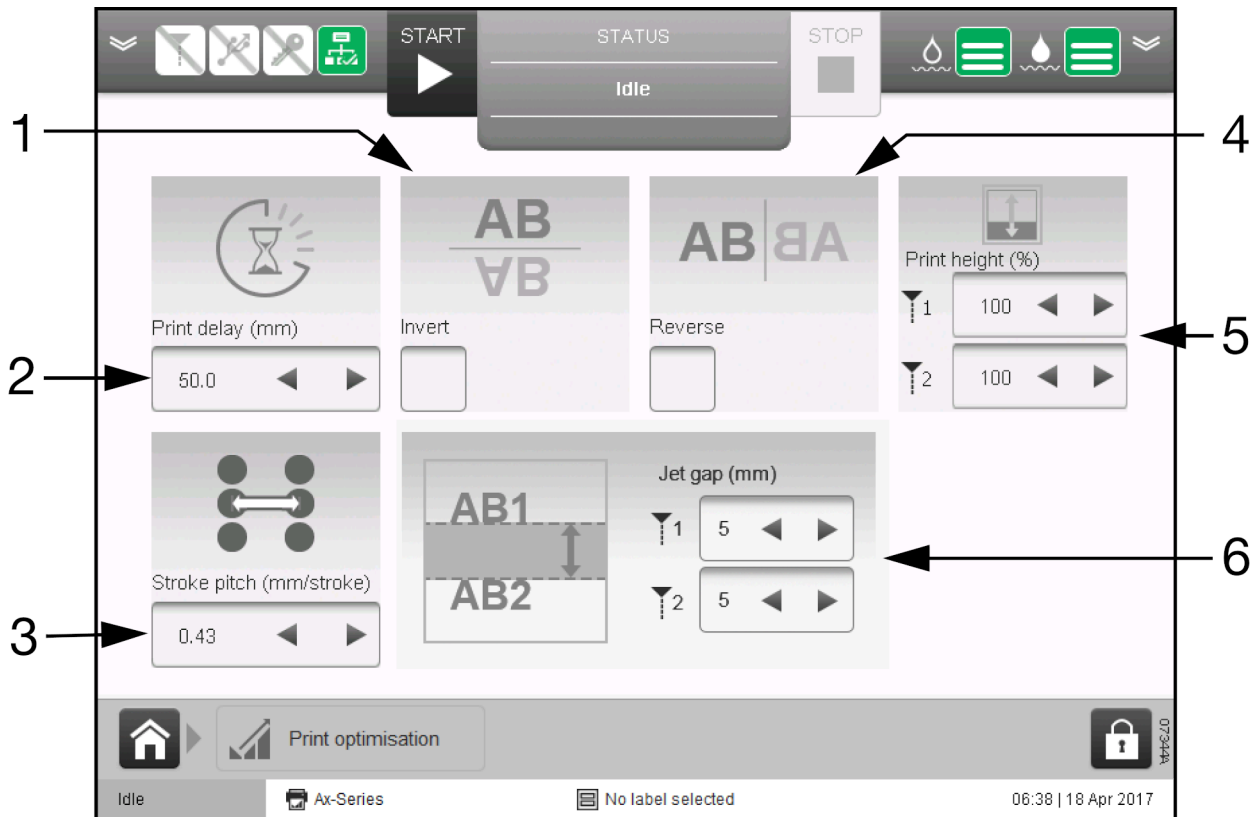


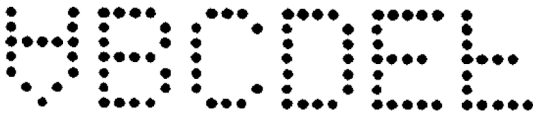
Print Optimisation Screen

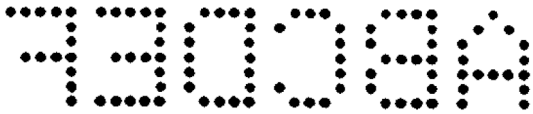

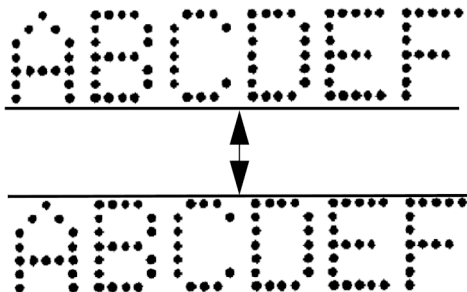
The Print Optimisation screen contains settings which are used to make everyday adjustments to label appearance.

This screen is accessed by selecting *Print Optimisation* on the *Home Screen*.

The following illustration shows the Print Optimisation screen.



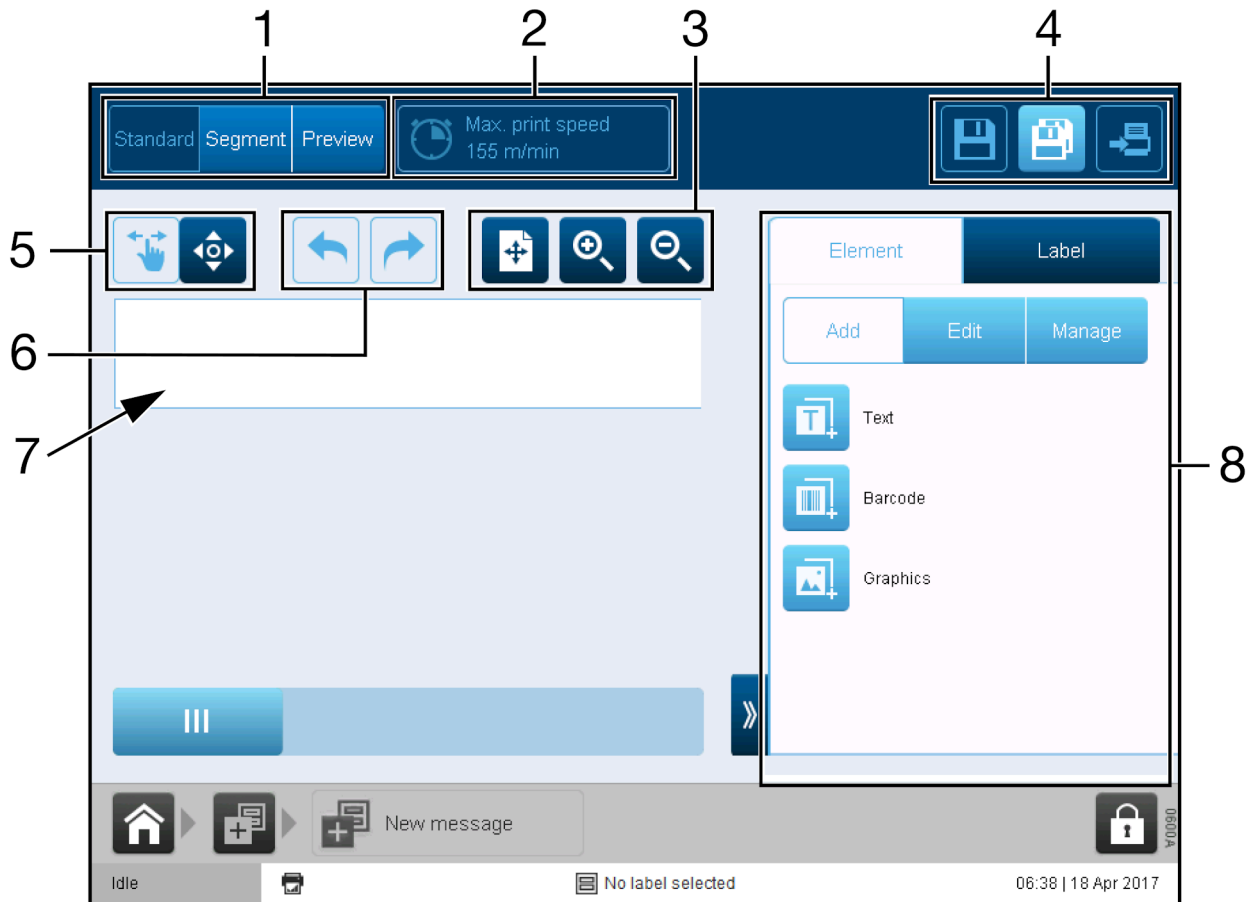
| # | Setting Name | Explanation |
|---|--------------------------|--|
| 1 | Invert | <p>Note Not available if the Continuous Printing Pack is installed.</p> <p>Invert the label.</p>  |
| 2 | Print Delay (mm) | <p>Note Not available if the Continuous Printing Pack is installed.</p> <p>Set the delay between a product detect sensor detecting a product and the label being printed.</p> |
| 3 | Stroke Pitch (mm/stroke) | <p>Note Not available for Ax130i.</p> <p>Adjust the width of the label by increasing or decreasing the distance between each line of ink drops that form each printed character.</p> <p>The default value is 0.43.</p> |

| # | Setting Name | Explanation |
|---|------------------|---|
| 4 | Reverse | <p>Note Not available if the Continuous Printing Pack is installed.</p> <p>Reverse the label.</p>  |
| 5 | Print height (%) | <p>Adjust the print height percentage.</p>  <p>Notes</p> <ol style="list-style-type: none"> 1. Jet 1 and Jet 2 settings are available for the Duo Print Head only. 2. Adjustment of this setting on a printer equipped with a Duo Print Head will change the accuracy of the <i>Jet gap (mm)</i> setting. |
| 6 | Jet gap (mm) | <p>Adjust the vertical gap between the two ink jet printing areas.</p>  <p>Notes</p> <ol style="list-style-type: none"> 1. For Duo Print Head only. 2. If the <i>Print Height (%)</i> is also adjusted, the accuracy of the <i>Jet gap (mm)</i> value will be effected. |

Label Creator Screen

The Label Creator screen is used in label creation and label editing.

Refer to [Creating and Editing a Label on page 169](#).



| # | Setting Name | Explanation |
|---|------------------------|---|
| 1 | Label View | The Label Creator contains three different viewing options: <ul style="list-style-type: none"> <i>Standard</i> - View, add and edit label elements <i>Segment</i> - View, add and edit label segments (visible only when the Professional Printing Pack is installed) <i>Preview</i> - Preview how the label will look when printed. |
| 2 | Max Print Speed | Displays the maximum print speed of the current label design. |
| 3 | Label Zoom Options | Zoom in and out of the label design, or fit the label design to the canvas area. |
| 4 | Save/Save As/Print | Save the label design or send it to print. |
| 5 | Element Moving Options | Choose to move elements in the label design area by dragging them. Or, choose to display arrow buttons to move elements more precisely. |
| 6 | Undo/Redo | Undo or redo the previous action. |
| 7 | Label Canvas Area | The area where the label is designed. |



OPERATION

| # | Setting Name | Explanation |
|---|--------------|--|
| 8 | Side Menu | <p>The Side Menu contains two tabs:</p> <ul style="list-style-type: none"> • <i>Element</i> - Add and edit label elements such as text, barcode and graphics • <i>Label</i> - Edit the label layout. Edit label print settings such as the label offset and label repeat. Manage label elements by locking them. |

PRINTER INFORMATION SCREENS

The Information Screens display detailed live information about the printer's performance.

To open the Information Screens:

1. Press the  icon on the Information Bar.
2. Swipe the screen left, or right to go to the next or previous screen.
3. Press the  icon to close the Information Screen.

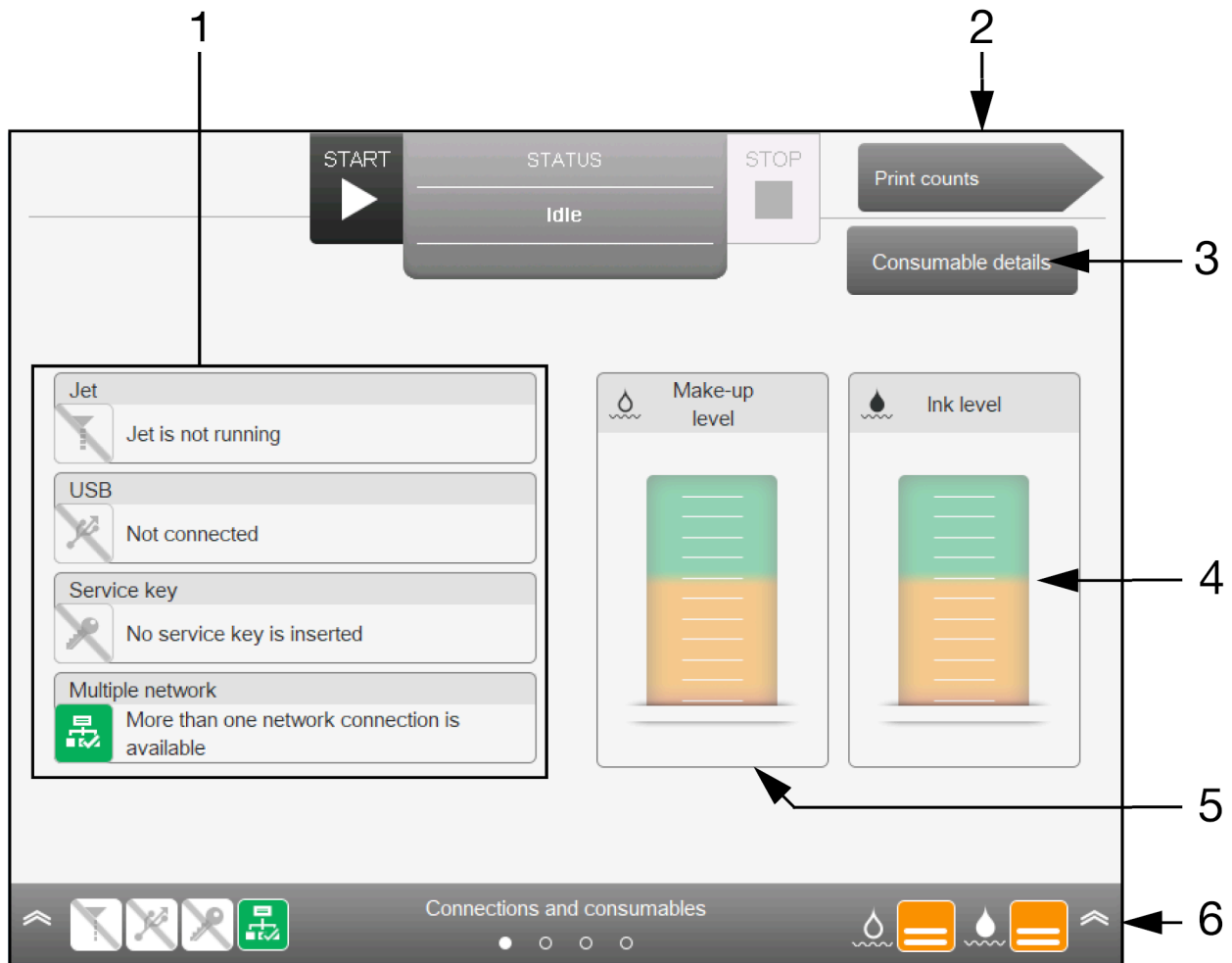
| | |
|------|--|
| Note | The Information Bar on the Home Screen will display summarised information from the Information Screen which was closed. |
|------|--|

The following Information Screens are available:

- [Connections and Consumables Screen on page 152](#)
- [Print Counts Screen on page 154](#) (Not available for Ax130i)
- [Overall Equipment Efficiency Screen on page 158](#)
- [Live Status Screen on page 159](#).

Connections and Consumables Screen

The following illustration shows the Connections and consumables screen.



| # | Setting Name | Explanation |
|---|---------------------------------|---|
| 1 | Connections and Jet Information | Shows connection and jet information about the printer: <ul style="list-style-type: none"> • Jet running/stopped • USB device connected • Service key connected • Multiple network connected. |
| 2 | Next Screen | Proceed to the <i>Print counts</i> screen. |

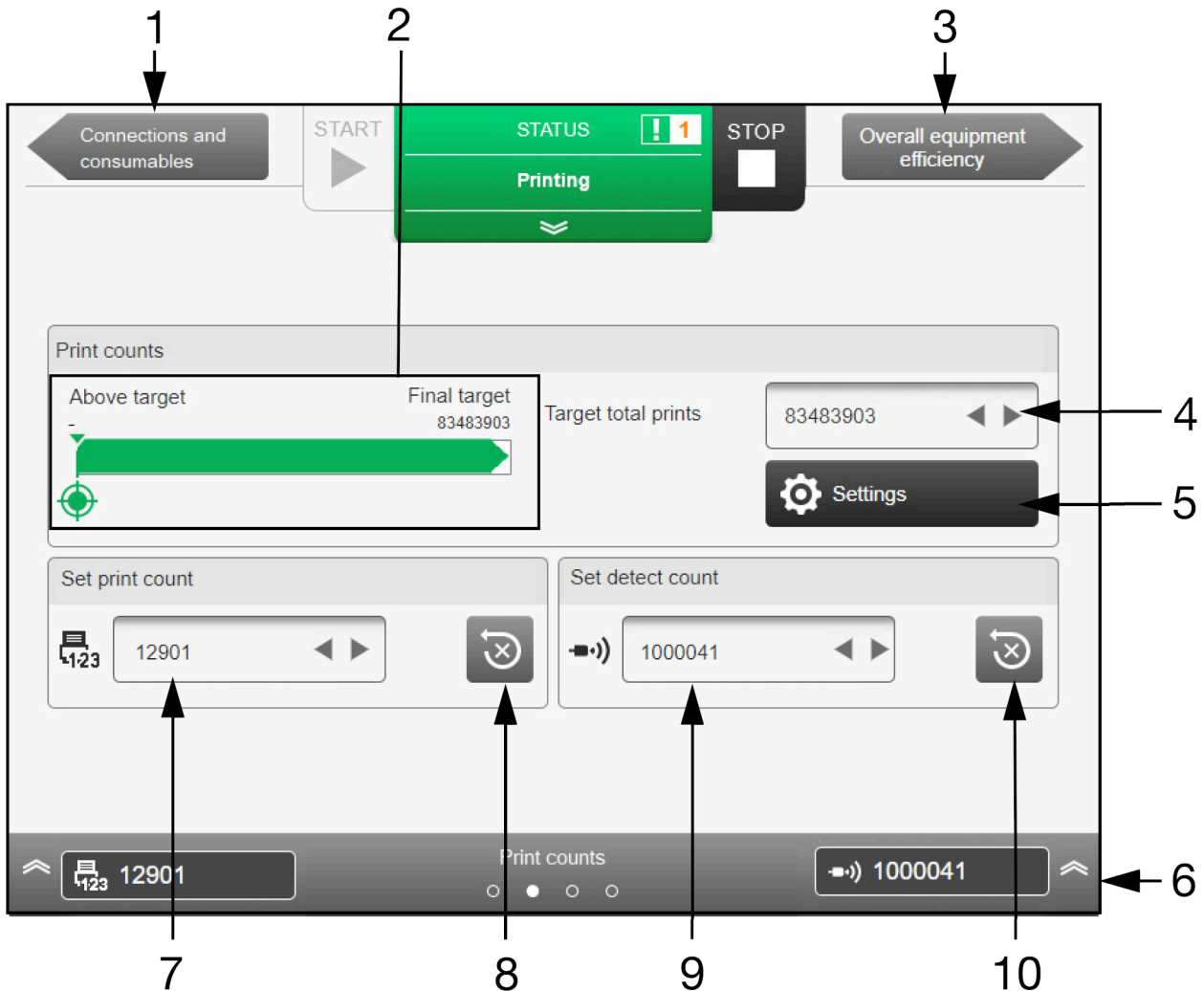
| # | Setting Name | Explanation |
|---|--------------------|---|
| 3 | Consumable Details | <p>View details about the printer's consumable items:</p> <ul style="list-style-type: none"> • Ink type that the printer is configured for and ink cartridge expiry date • Make-up type that the printer is configured for and make-up cartridge expiry date • ITM type that the printer is configured for and ITM expiry date. For an ITM type 6, expiry is the number of remaining run time hours, or a date (depending on the ITM's state). |
| 4 | Ink Level | <p>Shows the fluid level in the ink cartridge and ITM.</p> <p>When the indicator is in the green area, no user action is required.</p> <p>The indicator moves to amber when the ink cartridge is empty and the printer is using only the fluid in the ITM.</p> |
| 5 | Make-up Level | <p>Shows the fluid level in the make-up cartridge and MUM.</p> <p>When the indicator is in the green area, no user action is required.</p> <p>The indicator moves to amber when the make-up cartridge is empty and the printer is using only the fluid in the MUM.</p> |
| 6 | Information Bar | <p>Shows status information, which will be displayed on the <i>Home</i> screen when the <i>Connections and consumables</i> screen is closed.</p> |

Print Counts Screen

- Notes
1. This screen and these settings were added in software version 01.40.0629.
 2. This feature is not available for Ax130i.

The Print counts screen allows the user to quickly view a count of number of prints made and a count of the number of products detected. The counters and set/reset options can also be shown/hidden on the Home screen.

The illustration below shows the print counts screen.



| # | Setting Name | Explanation |
|---|-----------------------|---|
| 1 | Previous Screen | Go back to the <i>Connections and consumables</i> screen. |
| 2 | Print Target Progress | Displays the number of prints made against the target number of prints. |
| 3 | Next Screen | Proceed to the <i>Overall equipment efficiency</i> screen. |
| 4 | Target Total Prints | Set the target number of prints. |


OPERATION


| # | Setting Name | Explanation |
|----|----------------------|--|
| 5 | Print Count Settings | <p>Note These settings are described in more detail on Print Count Settings on page 156.</p> <p>Open the print count settings:</p> <ul style="list-style-type: none"> • Set the reset mode for the counters • Synchronise the counters • Enable print count/reset on home screen • Enable detect count set/reset on home screen. |
| 6 | Information Bar | Shows status information which will be displayed on the <i>Home</i> screen when the <i>Print counts</i> screen is closed. |
| 7 | Print Count | Displays a count of the number of prints made. Each time the printer makes a print, the counter will increment by 1. The print count value can also be selected to change the count to any value manually. |
| 8 | Reset Print Count | Select, to reset the print count value to 0. |
| 9 | Delete Count | <p>Displays a count of the number of products detected. Each time the product detect sensor detects a product, the counter will increment by 1.</p> <p>This counter will only update when the printer is in the ready state and a label is loaded.</p> <p>To manually change the counter to another value, select the counter and enter a new value.</p> |
| 10 | Reset Detect Count | Select, to reset the detect count value to 0. |

Print Count Settings


Note The feature is not available for Ax130i.

To set the print count settings:

1. Press the  icon on the Information Bar.
2. Swipe the screen to navigate to *Print counts*.
3. Select *Settings*.
4. The settings described below can now be changed.

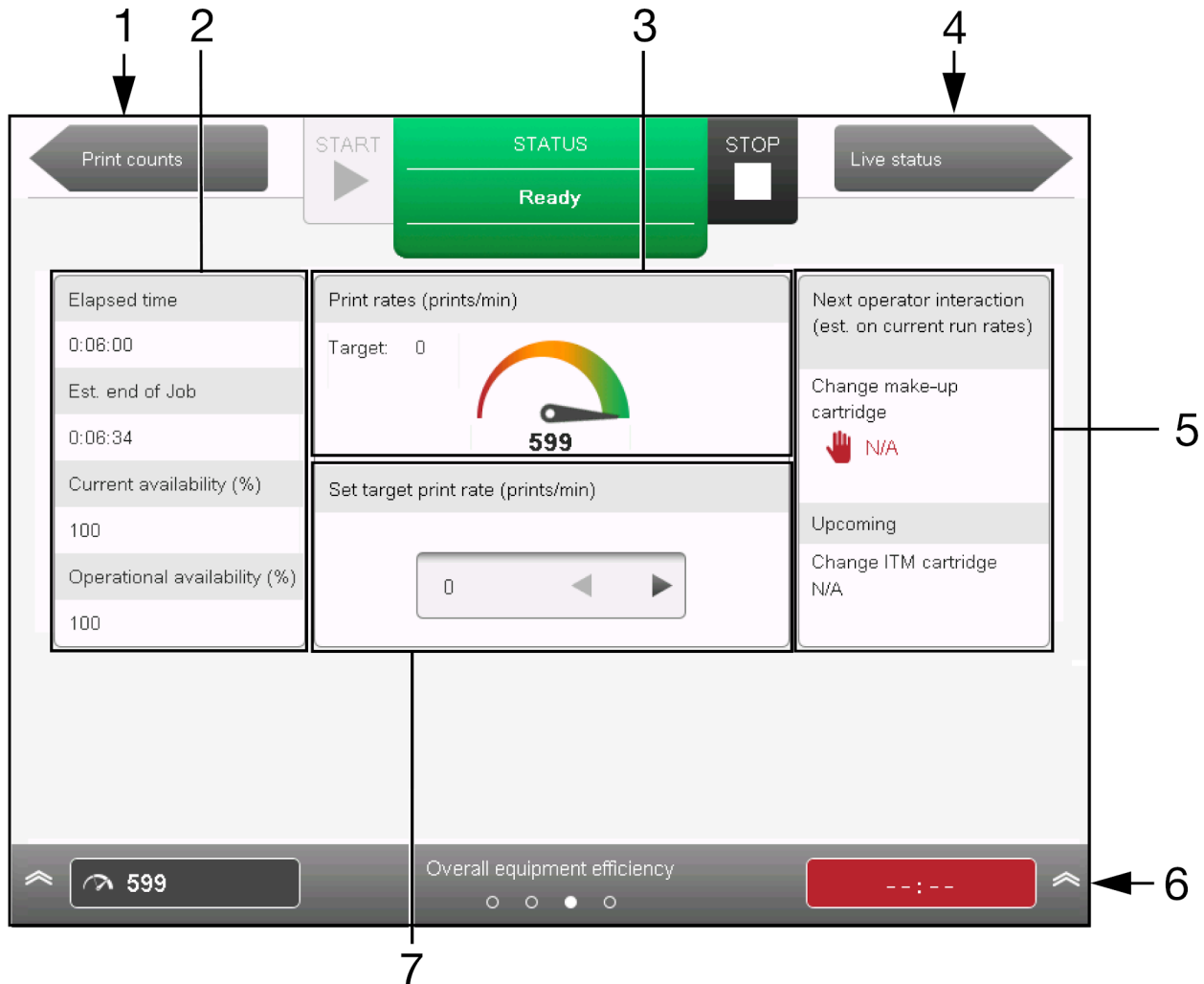
| Setting Name | Explanation |
|---|--|
| Reset mode | <p>Select when the counters are reset:</p> <ul style="list-style-type: none"> • <i>Lifetime</i> - Do not reset • <i>Power on</i> - Reset when the printer is powered on • <i>Label change</i> - Reset when a new label is loaded for printing • <i>Shift change</i> - Reset when the shift changes • <i>Daily</i> - Reset at the start of every new day • <i>Cartridge change</i> - Reset when an ink or make-up cartridge is changed • <i>Never</i> - The counters will never automatically reset. However, the user will be able to reset the counters manually. |
| Sync set/reset of print count and detect | <p>Tick to remove the option to separately set/reset the product detect count. The product detect count will become synchronised with the print count. When the print count is set or reset, the product detect count will be updated to the same value.</p> <p>Untick to allow the print count and product detect count to be set/reset individually.</p> |
| Enable print count set/reset on home screen | <p>Show or hide the print counter set/reset options on the <i>Home</i> screen.</p>  <p>The screenshot shows the printer's home screen. At the top, there's a status bar with a menu icon, a counter showing '50540', a 'START' button, a 'STATUS' indicator showing 'Idle', a 'STOP' button, and another counter showing '62586'. Below this, there are two 'Set' buttons with circular arrows, one for the print count and one for the product detect count. The print count 'Set' button is highlighted with a red box. The main display area shows 'abc123ABC' in a large, pixelated font. At the bottom, there's a navigation bar with icons for 'Home', 'Print optimisation', 'Production line setup', 'Setup', and a lock icon. The status 'Idle' and 'User defined' are also visible.</p> |

OPERATION

| Setting Name | Explanation |
|--|--|
| Enable detect count set/reset on home screen | <p>Show or hide the product detect counter set/reset options on the <i>Home</i> screen.</p>  <p>The screenshot shows the Home screen of a machine interface. At the top, there are two counters: '50540' on the left and '62586' on the right. Below the counters are 'Set' and 'Reset' buttons. The 'Set' button is highlighted with a red box. The status bar at the bottom shows 'Idle', 'Print optimisation', 'Production line setup', 'Setup', and a lock icon. The date and time '14:01 03 Mar 2020' are displayed in the bottom right corner.</p> |

Overall Equipment Efficiency Screen

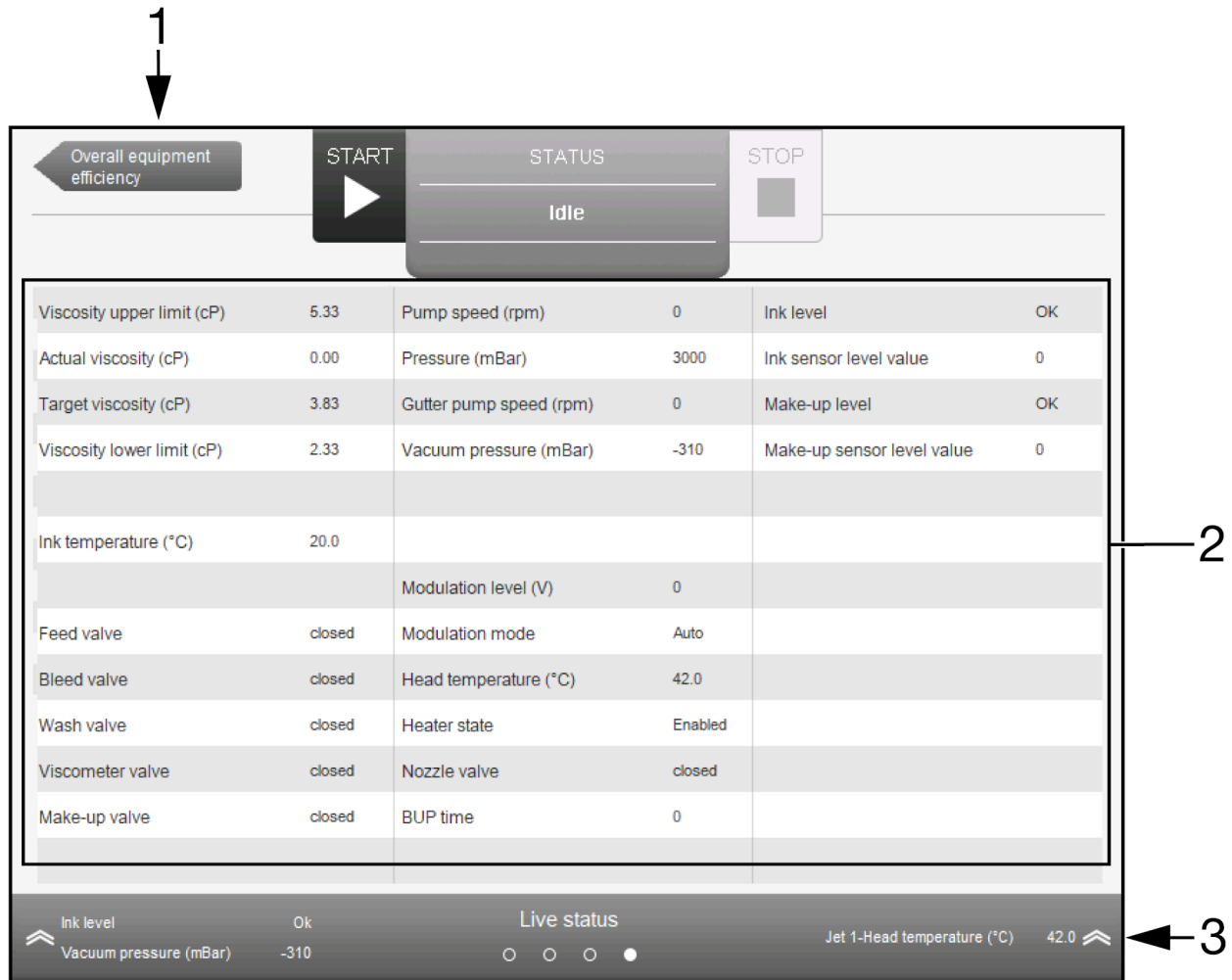
The following illustration shows the OEE screen.



| # | Setting Name | Explanation |
|---|------------------------------------|---|
| 1 | Previous Screen | Go back to the <i>Print counts</i> screen. |
| 2 | Efficiency Data | Printer efficiency data including elapsed time, estimated time to end of job etc. |
| 3 | Print Rates | Shows the targeted number of prints per minute against the current number of prints per minute. |
| 4 | Next Screen | Proceed to the <i>Live status</i> screen. |
| 5 | Next Operator Interaction | Shows the estimated time of future operator interactions. |
| 6 | Information Bar | Shows status information which will be displayed on the <i>Home</i> screen when the <i>Overall equipment efficiency</i> screen is closed. |
| 7 | Set target print rate (prints/min) | Set the target print rate. Defined as the number of prints per minute. |

Live Status Screen

The following illustration shows the Live status screen.



| # | Setting Name | Explanation |
|---|-------------------------|--|
| 1 | Previous Screen | Go back to the <i>Overall equipment efficiency</i> screen. |
| 2 | Live Status Information | Displays live status information about the printer. |
| 3 | Information Bar | Shows status information which will be displayed on the <i>Home</i> screen when the <i>Live status</i> screen is closed. |




START-UP

Start-up to the Ready State

Note This feature is not available for Ax130i.

When the printer is in the Ready state, the ink jet will be running and the printer will print when it receives the correct print trigger and encoder signals.



To start-up the printer and enter the Ready state:

1. Ensure the power connector at the rear of the printer is connected to a power source.
2. Press and hold the  button on the printer cabinet for 2 seconds.
3. The printer will now sequence on in the following order:
 - The green indicator lights on the  button and  button will begin flashing to indicate that the printer is starting up
 - The TouchScreen will display the QuickStep start-up progress log
 - The status tab will display the printer status and any faults that require attention
 - The printer is now ready to print labels.

Start-up to the Idle State


When the printer is in the Idle state, the ink jet will not be running and the printer will not print. changes can be made to printer settings and labels can be created or edited in the label creator.

To start-up the printer and enter the Idle state:

1. Ensure the power connector at the rear of the printer is connected to a power source.
2. Press and hold the  button on the printer cabinet for 2 seconds.
3. The printer will now sequence on in the following order:
 - The green indicator light on the  button will begin flashing to indicate that the printer is starting up
 - The TouchScreen will display the QuickStep start-up progress log
 - The status tab will display the printer status and any faults that require attention
 - The printer is now ready to perform non-printing functions such as creating a message.

Switch Between the Ready State and Idle State

To switch the printer between the Ready state and Idle state:

1. Press the  button (not available for Ax130i). Or, select the Start/Stop icon on the user interface.
2. Depending on the current printer status, the printer will enter one of the following two states:
 - From the Ready state, the printer will enter the Idle state
 - From the Idle state, the printer will enter the Ready state.

SHUT DOWN



CAUTION

Ink Sediment Hazard. Risk of Ink Degradation.

**Do not disconnect the power supply if wake-up mode is enabled.**




Wake-up mode keeps the ink agitated during long periods of idle time. Wake-up mode will be disabled if power is disconnected from the printer, see [Wake-up Mode on page 100](#).

To shut down a printer:

1. Press and hold the  button for 2 seconds.
2. The printer will now begin shutting down in the following sequence:
 - A progress bar will be displayed on the TouchScreen
 - The green indicator light on the  button will begin flashing
 - The print head will run an auto-flush cycle to prevent ink from drying and blocking inside the ink jet nozzle and print head gutter
 - The printer will shut down.

RECOMMENDATIONS FOR A LONG SHUT DOWN


Less Than 14 Days

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|--|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Ink Sediment Hazard. Risk of Ink Degradation. | |
|  | <p>Do not disconnect the power supply if wake-up mode is enabled.</p> <p>Wake-up mode keeps the ink agitated during long periods of idle time. Wake-up mode will be disabled if power is disconnected from the printer, see Wake-up Mode on page 100.</p> |

Depending on the ink type and the environment that the printer will be stored in, it's generally ok to shut down and store the printer for up to 14 days by following the procedure below.

However, some heavier ink types may need to be flushed out of the printer sooner than 14 days by an engineer certified by Domino. Also, if the printer will be stored in an environment outside of the recommended storage environment for the ink type, the ink will need to be flushed out of the printer by an engineer certified by Domino. This prevents ink from degrading in the printer's ink system and causing faults when the printer is re-started. Contact your local support office for more information.

To shut down and store the printer for less than 14 days:

1. Clean the print head:
 - [i-Pulse Print Head Cleaning on page 257](#)
 - [i-Pulse2 Print Head Cleaning on page 264](#)
 - [i-Pulse Duo Print Head Cleaning on page 271](#)
 - [i-Pulse RS Print Head Cleaning on page 276](#).
1. Press and hold the  button for 2 seconds.
2. Flush the gutter with the correct wash during the gutter clearing cycle to ensure the gutter is completely clean.
3. Remove any factory air supply.

Longer Than 14 Days

If the printer is to be shut down for longer than 14 days or stored in an environment that could degrade the ink, the ink must be flushed out of the printer by an engineer certified by Domino. This prevents ink from degrading in the printer's ink system and prevents faults when the printer is restarted. Some heavier ink types may need to be flushed out of the printer sooner than 14 days after shut down. Contact your local support office for more information.

ESSENTIAL SECURITY MODE

Essential security mode is a security feature that is available for all Ax-Series printers.

The Advanced Security Pack is available separately for Ax350i and Ax550i, for applications that require more advanced and customisable security features, see [Advanced Security Pack on page 301](#).

Enable/Disable Essential Security

When essential security mode is active, only users with a valid password will be able to operate the printer through the user interface.

-
- | | |
|-------|--|
| Notes | <ol style="list-style-type: none">1. You will be immediately logged out of the printer when the security mode is enabled. Make sure you have a valid password to log into the printer before enabling essential security mode.2. After essential security mode has been enabled, only a logged in admin level user can disable essential security mode.3. If the admin password becomes lost or forgotten, contact your local support office for help. |
|-------|--|
-

To enable/disable essential security mode:

1. Select *Home > Setup > Security*.
2. Select the *Security mode* drop down setting.
3. Select *Essential* or *Off*.

Log In

To log in:

1. Select the *Padlock* icon in the bottom right corner of the user interface.
2. Select *Log in*.
3. Enter the password for the required user group. The default password for each user group is defined in the table below:

Note Passwords are case sensitive.

| User Group | Password | Explanation |
|------------|----------|--|
| operator | op | Operator access to the basic settings required for normal printer operation. |
| admin | admin | Administrator access to all printer settings. |

Log Out

To log out:

1. Select the *Lock/Padlock* icon in the bottom right corner of the user interface.
2. Select *Log out*.

Enable Auto Log-in

Note This feature is not available for Ax130i.

To enable auto log-in:

1. Log into the controller as an admin level user.
2. Select *Home > Setup > Security*.
3. Tick the *Enable auto log-in* tick box.
4. Select the *Auto login user* drop down setting.
5. Select the user that will automatically be logged in when the controller is turned on.

Disable Auto Log-in

Note This feature is not available for Ax130i.

To disable auto log-in:

1. Log into the controller as an admin level user.
2. Select *Home > Setup > Security*.
3. Untick the *Enable auto log-in* tick box.

Change Password

Note If the admin password becomes lost or forgotten, contact your local support office for help.

To change a password:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Users*.
3. Select a user.
4. Select *Change password*.
5. Enter the following information:

| Setting Name | Explanation |
|------------------|--|
| Current password | Note Required to change admin password only. Enter the current user password. |
| New password | Enter the new password. |
| Retype password | Retype the new password. |

6. Select *Save*.

CREATING AND EDITING A LABEL

Create a New Label

To create a new label:

1. From the TouchScreen's Home Screen, select *Label creator*.
2. Select *Blank*.
3. Select the *Label name* text box.
4. Use the on screen keyboard to enter a name which the label design will be saved as.
5. Select the green *Tick* icon.
6. Select *Layout settings* to configure the label layout as described in the table below.

| | |
|------|--|
| Note | Printers equipped with an i-Pulse Duo print head will display label layout settings for both ink jets. |
|------|--|

| Setting Name | Explanation |
|--------------------------|--|
| Number of lines | Select the required number of lines. |
| Line height (drops) | Select the required height for each line in ink drops. |
| Type | Select the required label quality. |
| Overall height (mm) | Select the height of the label. |
| Use default height (%) | Tick the tick box to use the default print height setting. Untick the tick box to display the <i>Height (%)</i> setting. |
| Height (%) | Note This setting is only valid if the <i>Use default height (%)</i> tick box is not ticked. Set the print height percentage. |
| Use default stroke pitch | Tick the tick box to use the default stroke pitch setting. Untick the tick box to display the <i>stroke pitch (mm/stroke)</i> setting. |
| Stroke pitch (mm/stroke) | Note This setting is only valid if the <i>Use default stroke pitch</i> tick box is not ticked. Set the distance between print strokes. A stroke is the line of ink drops which is used to make up each printed character. |

7. Select *Create label*.

Edit a Label Layout

To edit a label layout:

1. Open the label which requires editing.
2. In the side menu, select the *Label* tab.
3. Select the *Edit* menu.
4. The layout settings as described in the table below can now be edited.

| Setting Name | Explanation |
|--------------------------|--|
| Number of lines | Select the required number of lines. |
| Line height (drops) | Select the required height for each line in ink drops. |
| Type | Select the required label quality. |
| Overall height (mm) | Select the height of the label. |
| Use default height (%) | Tick the tick box to use the default print height setting. Untick the tick box to display the <i>Height (%)</i> setting. |
| Height (%) | Note This setting is only valid if the <i>Use default height (%)</i> tick box is not ticked. Set the print height percentage. |
| Use default stroke pitch | Tick the tick box to use the default stroke pitch setting. Untick the tick box to display the <i>stroke pitch (mm/stroke)</i> setting. |
| Stroke pitch (mm/stroke) | Note This setting is only valid if the <i>Use default stroke pitch</i> tick box is not ticked. Set the distance between print strokes. A stroke is the line of ink drops which is used to make up each printed character. |

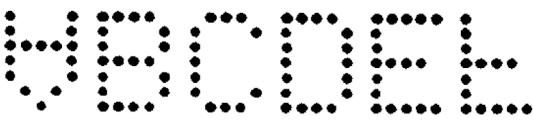
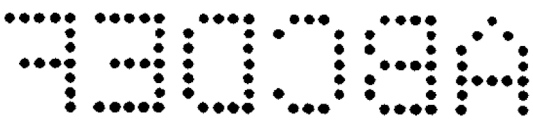
5. Select the Save icon to save the label layout.

Label Settings

Each individual label design can be created and saved with its own custom print settings.

To edit the label settings:

1. Open the label which requires editing.
2. In the side menu, select the *Label* tab.
3. Select the *Settings* menu.
4. The settings described in the table below can now be edited:

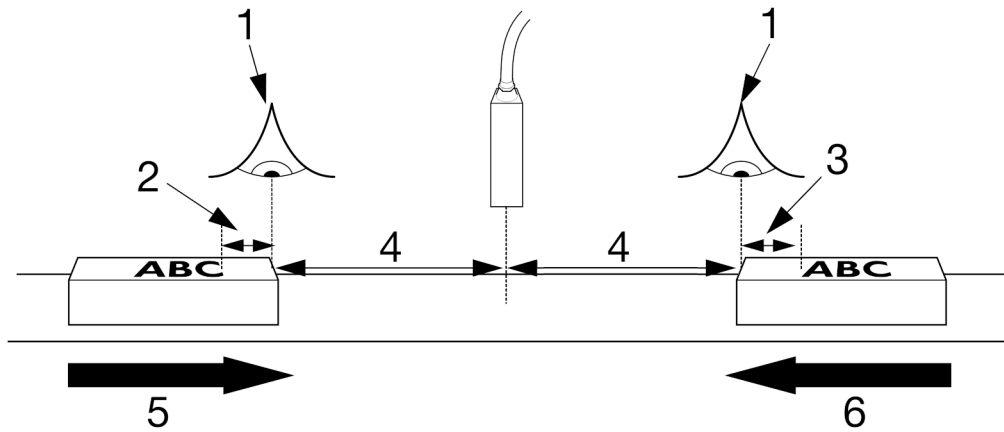
| Setting Name | Explanation |
|----------------------------|--|
| Forward and Reverse offset | Adjust the position of the label on the print surface in millimetres, see Forward and Reverse Offset . |
| Invert mode | Invert the label design, see Invert Mode .  |
| Reverse mode | Reverse the label design, see Reverse Mode on page 174 .  |
| Repeat mode | Set the label design to print repeatedly, see Repeat Mode on page 175 . |
| Max. print speed | Set the unit of measurement that the maximum print speed will be displayed in. |
| Name | Display the name the label is saved as. This value cannot be changed. |
| Shift code tables | Note This feature is not available for Ax130i. Create a shift code table that can be inserted into the label design, see Shift Code Tables on page 177 . |
| Script variables | Edit variables in LUA script elements that have been inserted into the label. Notes <ol style="list-style-type: none"> 1. This feature is not available for Ax130i. 2. LUA scripts can only be used if the Professional Printing Pack is installed. |

5. Select the *Save* icon to save the settings.

Forward and Reverse Offset

Forward offset is used to adjust the position of the label on the print surface. If the print head is on a traversing line the Reverse offset can also be set.

Note A global offset setting is also available to adjust the offset for all label designs, see [Print Offset on page 220](#).



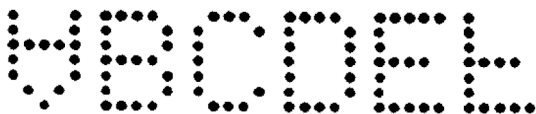
| # | Explanation |
|---|------------------------------------|
| 1 | Print Trigger |
| 2 | Reverse Offset |
| 3 | Forward Offset |
| 4 | Print Delay |
| 5 | Direction of print (Left to Right) |
| 6 | Direction of print (Right to Left) |

To adjust the offset for an individual label design:

1. In the label creator's side menu, select the *Label* tab.
2. Select the *Settings* menu.
3. Adjust the *Forward offset (mm)* or *Reverse offset (mm)* setting.
4. Select the *Save* icon to save the setting.

Invert Mode

Invert mode is used to invert an individual label design as shown in the illustration below.



This setting can also be used on a traversing line to invert the label design for a specified number of times before inverting the label back. If the printer is fitted with a GPIO Pack or Extended GPIO Pack, this setting can be configured to invert the label when an assigned input pin is activated.

-
- Notes
1. A global invert setting is available to invert all label designs. However, the global setting does not allow the number of inverted prints to be counted. Also, the global setting does not allow inverted prints to be triggered by a user port, see [Position / Orientation on page 226](#).
 2. If required, the label can also be inverted on the Print optimisation screen, see [Print Optimisation Screen on page 147](#).
-

To setup Invert mode for an individual label design:

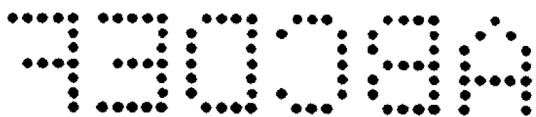
1. In the label creator's side menu, select the *Label* tab.
2. Select the *Settings* menu.
3. Select the *Invert mode* drop down setting.
4. Select and configure one of the options described in the table below:

| Setting Name | Explanation |
|----------------------|---|
| On - Always | The printed label will be inverted at all times. |
| On - Counted | <p>The printed label will be inverted for a specified number of prints.</p> <p>When this option is selected, the settings described below will also be displayed:</p> <ul style="list-style-type: none"> • <i>Invert: Initial orientation</i> - Select the orientation of the first label print • <i>Invert repeat count</i> - Select the number of times the label will be printed in an inverted orientation. |
| On - GPI / User port | <p>Note Only valid if a GPIO Pack or Extended GPIO Pack is installed.</p> <p>The printed label will be inverted when an assigned input pin is activated.</p> |
| Off | The printed label will not be inverted. |

5. Select the *Save* icon to save the setting.

Reverse Mode

Reverse mode is used to reverse an individual label design as shown in the illustration below.



This setting can be configured to reverse the label design for a specified number of times, before reversing the label back for the same number of times. If the printer is fitted with a GPIO Pack or Extended GPIO Pack, this setting can be configured to reverse the label when an assigned input pin is activated.

-
- Notes
1. A global reverse setting is available to reverse all label designs. However, the global setting does not allow the number of reversed prints to be counted. Also, the global setting does not allow reversed prints to be triggered by a user port, see [Position / Orientation on page 226](#).
 2. If required, the label can also be inverted on the Print optimisation screen, see [Print Optimisation Screen on page 147](#).
-

To setup Reverse mode for an individual label design:

1. In the label creator's side menu, select the *Label* tab.
2. Select the *Settings* menu.
3. Select the *Reverse mode* drop down setting.
4. Select and configure one of the options described in the table below:

| Setting Name | Explanation |
|----------------------|---|
| On - Always | The printed label will be inverted at all times. |
| On - Counted | <p>The printed label will be reversed for a specified number of prints.</p> <p>When this option is selected, the settings described below will also be displayed:</p> <ul style="list-style-type: none"> • <i>Reverse: Initial orientation</i> - Select the orientation of the first label print • <i>Reverse repeat count</i> - Select the number of times the label will be printed in an inverted orientation. |
| On - GPI / User port | <p>Note Only valid if a GPIO Pack or Extended GPIO Pack is installed.</p> <p>The printed label will be reversed when an assigned input pin is activated.</p> |
| Off | The printed label will not be reversed. |

5. Select the Save icon to save the setting.

Repeat Mode

Repeat mode can be configured to repeatedly print an individual label design for a specified number of times after a single print trigger signal is received. Repeat mode can also be configured to repeatedly print the label design when a continuous print trigger signal is received.

Note A global repeat setting is available to repeat print all label designs, see [Repeat Print on page 221](#).

To setup repeat mode for an individual label design:

1. In the label creator's side menu, select the *Label* tab.
2. Select the *Settings* menu.
3. Select the *Repeat mode* drop down setting.
4. Select and configure one of the options described in the table below:

| Setting Name | Explanation |
|--------------|---|
| Off | The printed label will not be repeated. |
| Counted | <p>The printed label will be repeated for a specified number of extra prints. When this option is selected, the settings described below will also be displayed:</p> <ul style="list-style-type: none"> • <i>Repeat count</i> - Enter the number of times to repeat the current label. The number of repeat counts is extra to the initial print, i.e. 6 will print 6 extra prints (7 in total) • <i>Repeat spacing mode</i> - Select how the distance between each print is defined. Select <i>Space by pitch</i> to define the distance between the start of one print and the start of the next print in mm. Or, select <i>Space by gap</i> to define the distance between the end of one print to the start of the next print in mm • <i>Repeat spacing (mm)</i> - Define the distance between prints • <i>Repeat: Update each print</i> - Tick to update clock and counter information for each print. Or, untick to keep the same information on each print • <i>Repeat: End of product</i> - Define when and how to stop repeat printing. Select <i>Ignore</i> to ignore the print trigger signal and continue printing. Select <i>Complete</i> to complete the next print. Select <i>Cancel</i> to stop before the next print. |

OPERATION

| Setting Name | Explanation |
|--------------|--|
| Continuous | <p>Continuously repeat print the label when a constant print trigger signal is received by the printer. The printer will stop printing when the print trigger signal stops. When this option is selected, the settings described below will also be displayed:</p> <ul style="list-style-type: none"> • <i>Repeat spacing mode</i> - Select how the distance between each print is defined. Select <i>Space by pitch</i> to define the distance between the start of one print and the start of the next print in mm. Or, select <i>Space by gap</i> to define the distance between the end of one print to the start of the next print in mm • <i>Repeat spacing (mm)</i> - Define the distance between prints • <i>Repeat: Update each print</i> - Tick to update clock and counter information each print. Or, untick to keep the same information on each print • <i>Repeat: End of product</i> - Define when and how to stop continuous print. Select <i>Complete</i> to complete the next print. Select <i>Cancel</i> to stop before the next print. |

5. Select the Save icon to save the setting.

Shift Code Tables

| | |
|------|---|
| Note | This feature is not available for Ax130i. |
|------|---|

The shift code tables setting defines the code that will be printed, when a shift code element is used in the label. Different user defined codes can be set to print, during different time periods of the day.

To setup shift code tables:

1. In the label creator's side menu, select the *Label* tab.
2. Select the *Settings* menu.
3. Select *Shift code tables*.
4. Select *Add New*.
5. Select the *Name* setting and enter the name of the shift code table.
6. Select *View...*
7. Select *+Add row...*
8. Enter a *Start time* and a *Code* for the first shift.
9. To add more shifts select *+Add row...*
10. Select *Save* to confirm the shift codes.
11. Select *Save* to save the shift code table properties.
12. To add a shift code element into the label design, see [Add a Shift Code Element on page 198](#).

Label Elements

The text, barcode and graphic items which make up label designs are known as elements.

The following pages explain how to add and edit different label elements.

Add a Text Element

To add a text element into a label design:

1. In the label creator's side menu select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Enter the required text using the on screen keyboard.



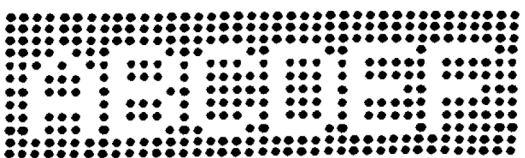
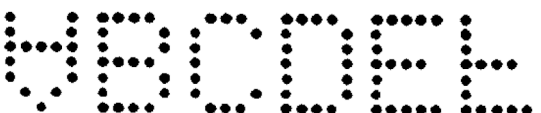
| | |
|------|---|
| Note | The keyboard type and language can be changed by selecting the appropriate icon at the bottom of the text entry screen. |
|------|---|

5. Select the green *Tick* icon to add the text element to the label design.
6. Select the *Save* icon to save the label design.

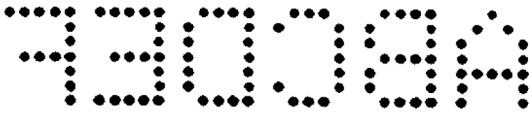



Edit a Text Element

To edit a text element in the label design:

1. Select the text element that requires editing.
2. In the label creator's side menu select the *Element* tab.
3. Select the *Edit* menu.
4. The following settings can now be used to edit the text element:

| Setting Name | Explanation |
|-------------------------------|---|
| Name | Edit the name of the element. |
| Font type | <ul style="list-style-type: none"> • <i>Tower</i> - Each character will be rotated 90° anti clockwise • <i>Fixed</i> - Each character will take up an equal amount of horizontal space • <i>Proportional</i> - Each character will take up the amount of horizontal space required for that specific character only. |
| Font | Change the height of the text in ink drops. |
| Bold | Print text in bold. Range: 0-3 Set to 1 in the example below.  |
| Inter-character gap (strokes) | Vary the gap between text characters. Range: 1-50  |
| Invert black/white | Invert the printed and unprinted parts of the text element.  |
| Invert | Invert the text element.  |

OPERATION

| Setting Name | Explanation |
|--|---|
| Reverse | Reverse the text element.  |
| X (mm) | <p>Note Only visible if the continuous printing pack is installed.</p> <p>Set the horizontal position of the element. The <i>X (mm)</i> value is measured from the left side of the label, to the left side of the element.</p> |
|  | <p>Open the keyboard to edit the text.</p> <p>The keyboard type and language can be changed by selecting the appropriate icon at the bottom of the text entry screen.</p> |
|  | Copy the text element. |
|  | Delete the text element. |

5. Select the Save icon to save the change.

Unicode

Note This feature is not available for Ax130i.

To add a Unicode character into a text element:

1. When editing or creating a new text element, select the *Unicode* icon in the text entry screen.



2. Enter the Unicode value:

| Common Unicode Characters | | | |
|---------------------------|--------------------|------|-------------------|
| 00A3 | Pound (Sterling) | 20AA | Shekel (Israel) |
| 0024 | Dollar (US) | 20AB | Dong (Vietnam) |
| 00A2 | Cent (US) | 20A2 | Cruzeiro (Brazil) |
| 00A5 | Yen (Japan) | 20A6 | Naira (Nigeria) |
| 20AC | Euro | 20A8 | Rupee |
| 20A1 | Colon (Costa Rica) | 20A9 | Won (South Korea) |

3. Select the *Tick* icon in the top right of the screen to enter the Unicode character into the text element.
4. Select the green *Tick* icon to add the text element to the label design.
5. Select the *Save* icon to save the label design.

Input Method Editor (IME)

Note This feature is not available for Ax130i.

Entered in a similar manner to entering Unicode characters.

1. When editing or creating a new text element, select the *IME* icon in the text entry screen.



2. Enter the required characters.
3. Select the *Tick* icon in the top right of the screen to enter the IME character into the text element.
4. Select the green *Tick* icon to add the text element to the label design.
5. Select the *Save* icon to save the label design.

Add a Barcode Element

- Notes
1. The printer can currently print 8x18 - 8x144, 10x10, 12x12 - 12x88, 14x14, 16x16 - 16x64, 18x18, 20x20 - 20x64, 22x22, - 22x48, 24x24 - 24x64, 26x26 - 26x64 and 32x32 data matrix symbols. The amount of data that can be contained within a data matrix symbol is dependent on the data matrix size.
 2. This feature is not available for Ax130.

To add a barcode element into the label design:

1. In the label creator's side menu, select the *Element* tab.
2. Select the *Add* menu.
3. Select *Barcode*.
4. Select the *Barcode type* drop down setting and select a barcode type.
5. Define any other barcode type specific settings.
6. Select *Add*.
7. Enter the required barcode data using the keyboard.

Note The keyboard type can be changed by selecting the appropriate icon at the bottom of the data entry screen.

8. Select the green *Tick* icon to add the barcode data to the label design.
9. In the label design area, select the barcode.
10. In the side menu, select the *Element* tab.
11. Select the *Edit* menu.
12. The following barcode settings can now be defined:

| Setting Name | Explanation |
|--------------------------|--|
| Name | Enter the name of the barcode element. |
| Type | Select the barcode type. |
| Height (drops) | Specify the height of the barcode in ink drops. |
| Module width | Specify the barcode module width. Range: 1-10 |
| Show human readable code | Tick the <i>Show human readable code</i> tick box to display the barcode data in human readable text underneath the barcode. |
| Bearer bars | Tick the <i>Bearer bars</i> tick box to add bearer bars above and below the barcode. |
| Bearer box | Tick the <i>Bearer box</i> tick box to add a bearer box around the barcode. |
| Bar width ratios | Specify the width ratio between the widest and thinnest bar in the barcode. |
| Space width ratios | Specify the width ratio between the widest and thinnest space in the barcode. |

OPERATION

| Setting Name | Explanation |
|-----------------------|--|
| Invert black/white | Invert the printed and unprinted parts of the barcode element. |
| Invert | Flip the barcode upside down. |
| Reverse | Reverse the barcode. |
| X (mm) | <p>Note Only visible if the continuous printing pack is installed.</p> <p>Set the horizontal position of the element. The X (mm) value is measured from the left side of the label, to the left side of the element.</p> |
| Rotation | Rotate the barcode by 0°, 90°, 180°, or 270°. |
| Check digit algorithm | <p>If required, select a check digit algorithm.</p> <p>Default setting: None</p> |
| Quiet zone: Left | Add an empty area to the left of the barcode. |
| Quiet zone: Right | Add an empty area to the right of the barcode. |

13. Select the Save icon to save the change.

Add a Graphic Element

-
- Notes
1. To create and save an image file in the printer, see [Create an Image on page 207](#).
 2. To import and save an image file in the printer from a USB flash drive, see [Import an Image on page 209](#).
 3. This feature is not available for Ax130i.
-

To insert a graphic element into the label:

1. In the label creator's side menu, select the *Element* tab.
2. Select the *Add* menu.
3. Select *Graphics*.
4. Select the required graphic from the folder.
5. In the label design area, select the graphic.
6. In the side menu, select the *Element* tab.
7. Select the *Edit* menu.
8. The following graphic settings can now be defined:

| Setting Name | Explanation |
|--------------------|---|
| Name | Enter the name of the graphic element. |
| Source | Select the source image file. |
| Invert black/white | Invert the printed and unprinted parts of the graphic element. |
| Invert | Flip the graphic upside down. |
| Reverse | Reverse the graphic. |
| X (mm) | <p>Note Only visible if the continuous printing pack is installed.</p> <p>Set the horizontal position of the element. The <i>X (mm)</i> value is measured from the left side of the label, to the left side of the element.</p> |
| Rotation | Rotate the graphic by 0°, 90°, 180°, or 270°. |
| X pixel size | Select the horizontal pixel size. |

9. Select the *Save* icon to save the change.

Variable Label Elements

Variable label elements are elements which contain variable data such as clocks, counters and shift codes.

The following pages explain how to add and edit different variable label elements.

Add a Clock Element

To add a clock element into the label design:

1. In the label creator's side menu, select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Select *+Variable* at the top of the screen.
5. Select *Insert new...*
6. Select *Clock*.
7. The following clock settings can now be defined:

| Setting Name | Explanation |
|--------------|---|
| Name | Enter the name of the clock element. |
| Format | <p>Input the required date format:</p> <p>HH - Hour with leading zero, 24 hour clock (00-23)</p> <p>hh - Hour with leading zero. 12 hour clock (01-12)</p> <p>H - Hour code</p> <p>QQ - Quarter hour code (00-95)</p> <p>mm - Minute with leading zero (00-59)</p> <p>ss - (Second with leading zero (00-59)</p> <p>AMPM - AM or PM</p> <p>AP - A or P</p> <p>DD - Day of the month with leading zero (01-31)</p> <p>_D - Day of the month with leading space (1-31)</p> <p>JJJ - Julian day of the year (001-366)</p> <p>Y - Julian year of the decade (0-9)</p> <p>YY - 2 digit year (00-99)</p> <p>YYYY - 4 digit year (0000-9999)</p> <p>MM - Month number with leading zero (01-12)</p> <p>_M - Month number with leading space (1-12)</p> <p>PGMM - Month name (January-December)</p> <p>M - Month code</p> <p>Q - Quarter year code (five year cycle)</p> <p>QD - Day in the quarter</p> <p>PGDDD - Day name (Monday-Sunday)</p> <p>WW - Calendar week number (01-53)</p> <p>D - Day of the week (1-7)</p> |

OPERATION

| Setting Name | Explanation |
|--------------------|--|
| | A7 - Day of week code A31 - Day of month code |
| Calendar | Select the calendar type: <ul style="list-style-type: none"> • Gregorian • Hijri • Jalali. |
| Language | Select the language: <ul style="list-style-type: none"> • Western • Arabic • Farsi. |
| Julian day scheme | Note Only visible when the format “JJJ - Julian day of the year (001-366)” is used. Select the Julian day scheme: <ul style="list-style-type: none"> • EU (29 Feb = 60) • US (29 Feb = 366). |
| Month names | Note Only visible when the format “PGMM - Month name (January-December)” is used. Select the month names: <ul style="list-style-type: none"> • Use Gregorian • Use Hijri • Use Jalali • Use custom. |
| Custom month names | Note Only visible when the format “PGMM - Month name (January-December)” is used and “Month names” is set to “Custom”. Create a custom name value for each month. |
| Day names | Note Only visible when the format “PGDDD - Day name (Monday-Sunday)” is used. Select the day names: <ul style="list-style-type: none"> • Use Gregorian • Use Hijri • Use Jalali • Use custom. |
| Custom day names | Note Only visible when the format “PGDDD - Day name (Monday-Sunday)” is used and “Day names” is set to “Custom”. Create a custom name value for each day. |

OPERATION

| Setting Name | Explanation |
|--------------------------------|--|
| Start month for month code | <p>Note Only visible when the format “M - Mandatory alpha character (upper case only) A-Z” is used.</p> <p>Select which month the year will start on.</p> |
| Month codes | <p>Note Only visible when the format “M - Mandatory alpha character (upper case only) A-Z” is used.</p> <p>Edit the alpha code value for each month.</p> |
| Hour codes | <p>Note Only visible when the format “H - Hour code” is used.</p> <p>Edit the alpha code value for each hour.</p> |
| Calendar week calculation mode | <p>Note Only visible when the format “WW - Calendar week number (01-53)” is used.</p> <p>Select how the week of the year will be calculated:</p> <ul style="list-style-type: none"> • DIN 1355 • Custom. |
| First day of week | <p>Note Only visible when the format “WW - Calendar week number (01-53)” is used and “Calendar week calculation mode” is set to “Custom”. Or, if the formats “D - Day of the week (1-7)” or “A7 - Day of week code” are used.</p> <p>Select what day the week will start on.</p> |
| Day of week codes | <p>Note Only visible when the format “A7 - Day of week code” is used.</p> <p>Edit the alpha code value for each day.</p> |
| Day of month codes | <p>Note Only visible when the format “A31 - Day of month code” is used.</p> <p>Edit the alpha code value for each month.</p> |
| Offset | This setting will add an offset to the clock value in years, months weeks, days, hours or minutes. |
| Roll over time | This setting is a delay that adjusts time when the calendar date will roll over to the next day. Only a positive value can be set. For example, a value of 03:30:00 will retain the previous calendar date past midnight until 03:30. |

OPERATION

| Setting Name | Explanation |
|-----------------------|---|
| Month offset rollover | <p>Note Only visible when an offset month value is entered.</p> <p>This setting defines the offset clocks behaviour, if the current month is longer than the month that the clock will offset to. On the last day of a longer month, the offset clock can display the next, or previous month.</p> <ul style="list-style-type: none"> • <i>Forwards</i> - Display the next month on the last day of a long month • <i>Backwards</i> - Display the previous month on the last day of a long month. |

8. Select the green *Tick* icon to confirm the clock settings.
9. Select the green *Tick* icon to add the clock element to the label design.
10. Select the *Save* icon to save the change.

Add a Counter Element

To add a counter element to the label design:

1. In the label creator's side menu, select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Select *+Variable* at the top of the screen.
5. Select *Insert new...*
6. Select *Counter*.
7. The following counter settings can now be defined:

| Setting Name | Explanation |
|----------------------------|---|
| Name | Enter the name of the clock element. |
| Format | Input the required counter format, for example: 0000 = Four mandatory numeric characters (0-9) LLLL = Four mandatory alpha character (A-Z or a-z) |
| Start value | Input the counter start value. |
| Repeat count | Enter the number of times the same counter value will be repeated. |
| Show additional properties | Tick the Show additional properties tick box to show more counter settings. |
| Step | Enter the number of steps and the direction that the counter will count in, for example: <ul style="list-style-type: none"> • If the <i>Start value</i> is set to 00 and Step is set to 5, the counter will count upwards from 00 in the following sequence: 00, 05, 10, 15, etc. The counter will reset when it reaches the Upper limit value • If the <i>Start value</i> is set to 20 and Step is set to -5, the counter will count downwards from 20 in steps of 5 in the following sequence: 20, 15, 10, 05, etc. The counter will reset when it reaches the Lower limit value. |
| Lower limit | Enter the minimum counter value. When the counter reaches this value it will reset. |
| Upper limit | Enter the maximum counter value. When the counter reaches this value it will reset. |

OPERATION

| Setting Name | Explanation |
|--------------------------|---|
| Rollover behaviour | <ul style="list-style-type: none"> <i>Rollover</i> - When the counter reaches the upper limit, it will reset to the lower limit. A counter with a lower limit of 0 and an upper limit of 5 will print: 0, 1, 2, 3, 4, 5, 0, 1, 2, 3, 4, 5, 0, 1, 2, 3, 4, 5... <i>Reverse including limit</i> - This setting is designed for traversing applications. A counter with a lower limit of 0 and an upper limit of 5 will print: 0, 1, 2, 3, 4, 5, 5, 4, 3, 2, 1, 0, 0, 1, 2, 3, 4, 5... <i>Reverse excluding limit</i> - This setting is designed for traversing applications. A counter with a lower limit of 0 and an upper limit of 5 will print: 0, 1, 2, 3, 4, 5, 4, 3, 2, 1, 0, 1, 2, 3, 4, 5... |
| Use alpha control string | <p>Note This setting is only visible, if the counter format includes alpha characters.</p> <p>Tick to enable the <i>Alpha control string</i> setting.</p> |
| Alpha control string | <p>Note This setting is only visible, if “Use alpha control string” is enabled.</p> <p>Choose which alpha characters will be allowed in the counter.</p> |
| Lower alpha character | <p>Note This setting is only visible, if the counter format includes alpha characters, and “Use alpha control string” is not enabled.</p> <p>Choose the lowest alpha character value. The counter will update using the latin alphabet sequence. This value will be used as the lowest possible alpha value.</p> |
| Upper alpha character | <p>Note This setting is only visible, if the counter format includes alpha characters, and “Use alpha control string” is not enabled.</p> <p>Choose the highest alpha character value. The counter will update using the latin alphabet sequence. This value will be used as the highest possible alpha value.</p> |
| Leading zeros | <p>Note This setting is only visible, if the counter format includes numeric characters.</p> <p>Tick the <i>Leading zeros</i> tick box to add padding characters to the counter.</p> |
| Padding character | <p>Note This setting is only visible, if “Leading zeros” is enabled.</p> <p>This setting is used to define the padding character that will be printed.</p> |

OPERATION

| Setting Name | Explanation |
|--------------------------------|--|
| Trigger | <p>Specify what method will trigger the counter value to update:</p> <ul style="list-style-type: none"> • <i>Product Detect</i> - The counter value will update each time a product detect signal is received • <i>Another Counter</i> - The counter value will update when another selected counter element reaches its <i>Upper limit</i> or <i>Lower limit</i> value. |
| Language | <p>Note This setting is only visible, if the counter format includes numeric characters.</p> <p>Select the language:</p> <ul style="list-style-type: none"> • Western • Arabic • Farsi. |
| Store persistent counter value | <p>Note Counter persistence may fail, if there is an electrical power cut.</p> <p>Select when the counter value is saved, to continue counting from the same value when printing re-starts:</p> <ul style="list-style-type: none"> • never • on print start • on print complete. |

8. Select the green *Tick* icon to confirm the counter settings.
9. Select the green *Tick* icon to add the counter element to the label design.
10. Select the *Save* icon to save the change.

Add a Prompted Field Element

Note This feature is not available for Ax130i.

When a label containing a prompted field element is sent to print, the operator will be prompted to update data in the prompted field element before printing can start.

The type of data that can be entered into a prompted field element can be Time, Date or Text.

To add a prompted field element into the label design:

1. In the *Side* menu select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Select *+Variable* at the top of the screen.
5. Select *Insert new...*
6. Select *Prompted field*.
7. The following prompted field settings can now be defined:

| Setting Name | Explanation |
|---------------|---|
| Name | Enter the name of the prompted field element. |
| Type | Select the type of prompted field: <ul style="list-style-type: none"> • <i>None</i> - The user will be prompted to enter standard text • <i>Clock</i> - The user will be prompted to enter a date or time. |
| Prompt | Enter a prompt message which will be displayed to the operator to prompt when the label is sent to print. |
| Input mask | If <i>Type</i> is set to <i>None</i> , enter the number and type of characters which the operator must input. If <i>Type</i> is set to <i>Clock</i> or <i>Time Conditional</i> , enter the format the operator must use to input the date or time. |
| Output format | Enter the format which the clock or time will be printed in. Note This setting is only valid if <i>Type</i> is set to <i>Clock</i> . |
| Language | Select the clock or date language. Note This setting is only valid if <i>Type</i> is set to <i>Clock</i> . |

8. Select the green *Tick* icon to confirm the prompted field settings.
9. Select the green *Tick* icon to add the prompted field element to the label design.
10. Select the *Save* icon to save the change.

Add a Reference Element

- Notes
1. A reference element can only link to data from barcode elements.
 2. Reference elements cannot be placed before or to the left of the barcode element that it links to. Reference elements can only be placed below/above or to the right of the barcode element that it links to.
 3. This feature is not available for Ax130i.

A reference element can be used to print data contained within a barcode as human readable text elsewhere in the same label design.

To add a reference element into the label design:

1. In the *Side* menu select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Select *+Variable* at the top of the screen.
5. Select *Insert new...*
6. Select *Reference*.
7. The following settings can now be defined:

| Setting Name | Explanation |
|---------------|---|
| Source ID | Select the name of the barcode element that will be linked. |
| Source length | Set the maximum length of the linked data. |
| Source offset | Add an offset to the linked data. |

8. Select the green *Tick* icon to confirm the settings.
9. Select the green *Tick* icon to add the element to the label design.
10. Select the *Save* icon to save the change.

Add a Script Element

Note This feature is not available for Ax130i.

Script elements written in Lua programming language can be imported into the printer using the file manager, see [Import LUA Script Files on page 293](#). Once imported, the script element can then be added into the label design.

To add a script element into the label design:

1. In the *Side* menu select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Select *+Variable* at the top of the screen.
5. Select *Insert new...*
6. Select *Script*.
7. Select *Source*.
8. Navigate to the location of the script file and select it.
9. Select the green *Tick* icon to confirm the correct script file has been selected.
10. Select the *Placeholder* setting.
11. Enter text that will act as a place holder for the script element on the label design area and select the green *Tick* icon.
12. Select the green *Tick* icon to add the script element to the label design.
13. Select the *Save* icon to save the change.

Add an External Data Element

Note This feature is not available for Ax130i.

An external data element is a field that allows data to be printed from an external source. Data can be transmitted to the printer via Ethernet TCP or Serial connection.

To add an external data element into the label design:

1. In the *Side* menu select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Select *+Variable* at the top of the screen.
5. Select *Insert new...*
6. Select *External data*.
7. The external data settings can now be defined:

| Setting Name | Explanation |
|---------------|---|
| Source | Select the external data communication source. |
| Length | Set the maximum length of the printed data. For example, if the data received by the printer is 01234 and the length is set to 3, the printed data will be 012. |
| Offset | The <i>Offset</i> value specifies which part of the data will be printed. For example, if the data received by the printer is 01234, the length is set to 3 and the <i>Offset</i> is set to 2, the printed data will be 234. |
| Delimited | Tick the <i>Delimited</i> box to display the <i>Delimiter</i> and <i>Index</i> settings. |
| Delimiter | If data sent to the printer is made up of multiple data blocks, the delimiter is the character that separates each data block. The <i>Delimiter</i> setting specifies the delimiter character used in the data stream that is sent to the printer. The delimiter can be any character. |
| Index | The <i>Index</i> value selects a specific block in the data stream to print. For example, if the data is 123,456,789,132,425 and the <i>Index</i> is set to 4, the 4th data block will be printed which is 132. |
| Example data | Displays an illustration of the format that the data will be printed in. |
| Default value | Set a default that can be used in place of missing EDC data. To enable this feature, select <i>Home > Setup > Printer network settings > Protocol settings</i> . Set <i>Buffer empty behavior</i> to <i>Default EDC element</i> . |

8. Select the green *Tick* icon to confirm the external data settings.

OPERATION

9. Select the green *Tick* icon to add the external data element to the label design.
10. Select the *Save* icon to save the change.

Add a Shift Code Element

Note This feature is not available for Ax130i.

A shift code element can be used to print data from a shift code table.

Note A shift code table must be created before a shift code element can be added to the label design. To create a shift code table, see [Shift Code Tables on page 177](#).

To add a shift code element into the label design:

1. In the *Side* menu select the *Element* tab.
2. Select the *Add* menu.
3. Select *Text*.
4. Select *+Variable* at the top of the screen.
5. Select *Insert new...*
6. Select *Shift-code*.
7. Select the *Shift-code table* drop down menu.
8. Select the required shift code table.
9. Select the green *Tick* icon to confirm the shift code table selection.
10. Select the green *Tick* icon to add the shift code element to the label design.
11. Select the *Save* icon to save the change.

Lock/unlock Label Elements

Label elements can be locked to stop them from being accidentally edited or moved within the label design.

To lock a label element:

1. In the label creator's side menu, select the *Element* tab.
2. Select the *Manage* menu.
3. In the list of elements, use the icons to lock or unlock the element:

| | |
|---|----------------------|
|  | Element is locked. |
|  | Element is unlocked. |

4. Select the Save icon to save the setting.



Preview Label

Select *Preview* at the top of the Label Creator to view a preview image of the label design.

Open and Edit a Label

To edit an existing label:

1. From the *Home Screen*, select *Label manager*.
2. Open the label store.
3. Select the *Edit* icon next to the label that requires editing.



The label will open in the Label Creator. To edit the content within the Label Creator:

1. Select an element to edit within the label design.
2. Edit the item using the available settings in the side menu.
3. Select the *Save* icon to save the change.



Copy Label Element

To copy an element within the label design:

1. Select the element to copy.
2. In the side menu, select the *Element* tab.
3. Select the *Edit* menu.
4. Select the *Copy* icon.



5. Drag the new element to a suitable position in the label design area.
6. Select the *Save* icon to save the change.



Copy Multiple Label Elements

To copy multiple elements within the label design:

1. In the side menu, select the *Element* tab.
2. Select the *Manage* menu.
3. Select the tick box next to the name of each element that will be copied.

| | |
|------|---|
| Note | A square will be displayed around each selected element in the label design area. |
|------|---|

4. Select the *Element* tab.
5. Select the *Edit* menu.
6. Select the *Copy* icon.



7. Drag the new elements to suitable positions in the label design area.
8. Select the *Save* icon to save the change.



Delete Label Element

To delete an element within the label design:

1. Select the element to delete.
2. In the side menu, select the *Element* tab.
3. Select the *Edit* menu.
4. Select the *Delete* icon.



5. Select the Save icon to save the change.



Delete Multiple Label Elements

To delete multiple label elements within the label design:

1. In the side menu, select the *Element* tab.
2. Select the *Manage* menu.
3. Select the tick box next to the name of each element that will be deleted.

| | |
|------|---|
| Note | A red square will be displayed around each selected element in the label design area. |
|------|---|

4. Select the *Element* tab.
5. Select the *Edit* menu.
6. Select the *Delete* icon.



7. Select the Save icon to save the change.



Move Label Element

To move an element within the label design:

1. Select the element to move.
2. Either
 - a. Select the *Drag* icon and drag the element to move it.



- b. Select the *Arrows* icon and use the arrows to move the selected element precisely.



3. Select the Save icon to save the change.



Zoom

Select the *Fit to Screen*, *Zoom In* or *Zoom Out* icon to change the magnification of the label area.



Fit to Screen



Zoom In



Zoom Out

Save Label

Once the label has been created:

1. Select the *Save as* icon.



2. Give the label a name and select a location.
3. Select the *Save* icon.



IMAGES

Create an Image

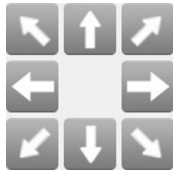
Note This feature is not available for Ax130i.

To create an image:

1. Select *Home > Setup > Tools*.
2. Use the *Width* and *Height* settings to specify the width and height of the design area.

Note This will define the size occupied by the image even if the content is smaller than this size.

3. Use the *Arrow* icons to place the cursor in the required position.



4. Click on the *Paint Brush* icon and draw the logo by moving the brush using the *Arrow* icons.



5. Click on the *Eraser* icon to remove pixels where required.



6. Select the *Save As* icon to save the image to the Images folder.



7. Enter a filename for the logo in the *Name* text box.
8. Select *Save*.

Edit an Image

Note This feature is not available for Ax130i.

To edit an image:

1. Select *Home* > *Setup* > *Tools*.
2. Select the *Folder* icon.



3. Find the image file that requires editing and select it.
4. Edit the image as required.
5. Save the image using the *Save* or *Save As* icons.



Import an Image

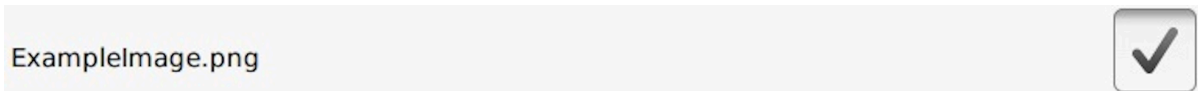
Note This feature is not available for Ax130i.

To import an image into the Ax-Series from a USB memory device:

1. Insert the USB memory device containing the image file into a USB port on the Ax-Series.
2. Wait until the USB icon on the information bar turns green.



3. Select *Home* > *Setup* > *File Manager*.
4. Open the *USB* folder.
5. Open the folder that contains the image file.
6. Select the tick box next to the image to be imported.



7. Select the *Copy* or *Cut* icon.



8. Navigate to and open the *Labels* folder.
9. Open the *IMAGE* folder.
10. Select the *Paste* icon.



11. Remove the USB memory device from the Ax-Series.

LABEL STORE AND FILE MANAGEMENT




Select Existing Label

Note Where no label is selected, "No label selected" will be displayed on the Home screen.


To open an existing label:

1. On the Home Screen, select *Label finder*.
2. Open the *Labels* folder.
3. If the label name or part of the label name is known, select *Filter labels...* and enter the label's name. If the label name is not known, swipe the screen vertically to scroll through the available the labels.

Note Stored labels can be viewed by name, or by name and a preview image:

| | |
|---|--|
|  | View labels by name. |
|  | View labels by name and preview image. |
|  | Refresh the label list. |

4. When the required label has been found, select one of the options listed below:

| | |
|---|---------|
|  | Print |
|  | Edit |
|  | Preview |

File Manager

This topic describes how to use the file manager.

The file manager is a useful tool for reviewing, organising and editing stored labels, images, fonts, rasters, scripts and other file types.

The file manager can also copy files to and from USB memory devices.

For the organisation of label files, label folders can also be created, edited and deleted within the main “Labels” folder and within sub folders of the “Labels” folder only. Folders cannot be created, edited or deleted in any other location.

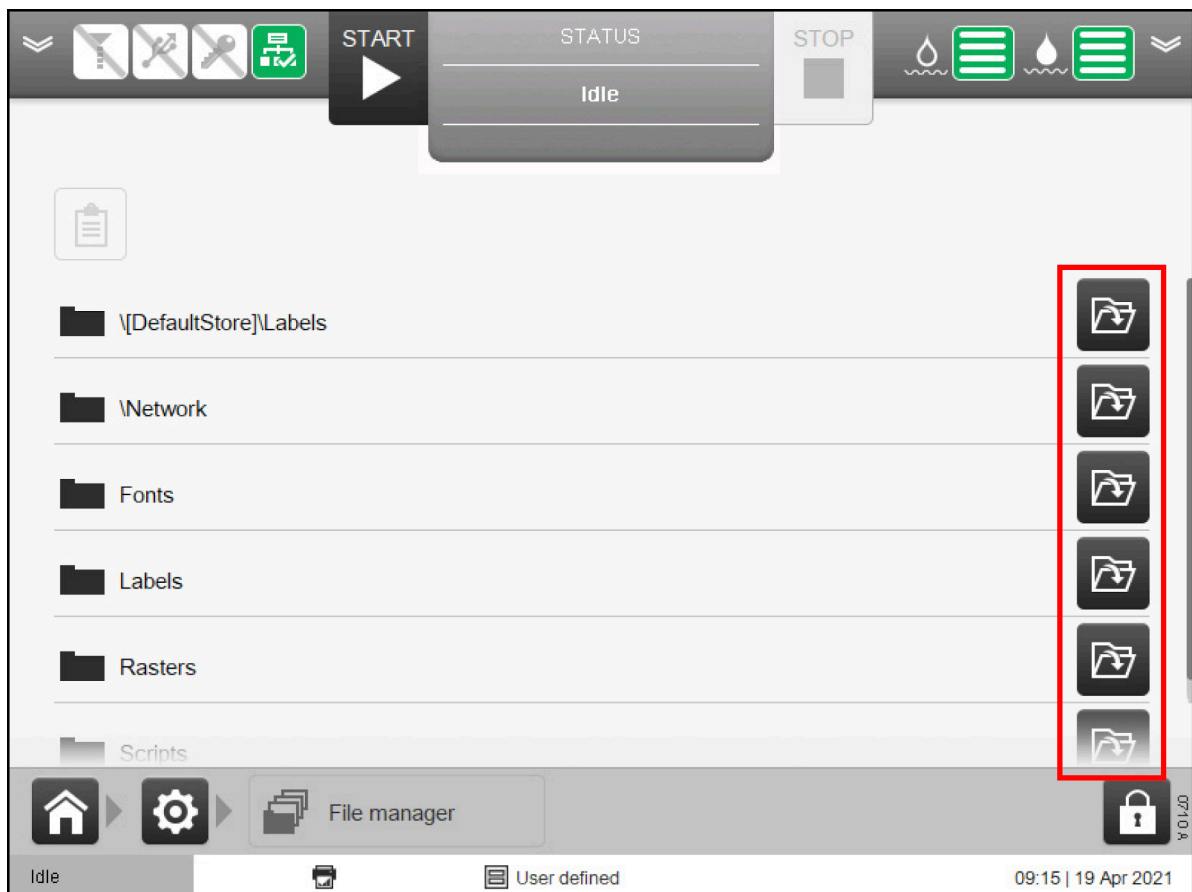
The ability to create, edit and delete label folders was added in software version 01.41.0505.

Note At the time of writing, it is not possible to create new folders in the Ax130i.

To use the file manager:

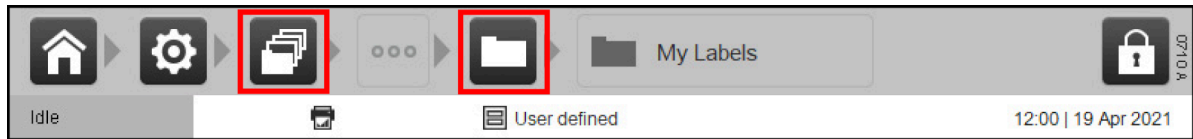
1. Select *Home > Setup > File Manager*.
2. To view the files that are stored in a folder, select the *Open folder* icon for that folder.

Note The top folder in the list “\[DefaultStore]\...” is a shortcut to the folder that is assigned as the default label store. To change the default label store folder, see [Set the Default Label Store Folder on page 214](#).



3. To go back one level, or to go to the top level of the file manager, use the highlighted icons below:

OPERATION



4. To view information about a file/folder, or to make a change to a file/folder, select the tick box for the file/folder that you want to inspect or change:



5. Use the icons described in the table below:

| | |
|--|---|
| | Paste a file/folder that has been cut or copied from another location. |
| | Copy a file/folder. |
| | Cut a file/folder Note At the time of writing, this feature is not available for Ax130i. |
| | Create a new folder. Notes <ol style="list-style-type: none"> 1. Only available within the “Labels” folder, to create new label sub folders. 2. Also creates an “Images” folder within the new label sub folder. 3. Cannot be used if a file or folder is already selected. 4. At the time of writing, this feature is not available for Ax130i. |
| | Rename a file/folder. Note At the time of writing, this feature is not available for Ax130i. |
| | View information about the file/folder: <ul style="list-style-type: none"> • Name • Type • Creation date • Modified date. Note At the time of writing, this feature is not available for Ax130i. |
| | Delete the file/folder. |

Create a New Label Folder

Note This feature is not available for Ax130i.

This procedure explains how to create new label folders within the main “Labels” folder.


New folders can only be created within the main “Labels” folder and within other sub folders of the “Labels” folder.

When a new label folder is created, an “Images” folder will also be created within the new folder.

There is no limit to the number of folders within folders that can be created, except for limits imposed by the operating system.

Only the first 64 folders (ordered alphabetically) will be visible in the label finder or will be selectable as the default label store.

To create a new label sub folder:

1. Select *Home > Setup > File manager*.
2. Open the *Labels* folder.
3. Select the new folder icon: 
4. Enter a name for the new folder.
5. Select *Create Store*.

To set the new folder as the default label store, see [Set the Default Label Store Folder on page 214](#).

Set the Default Label Store Folder

Note This feature is not available for Ax130i.

This procedure explains how to set a different folder as the default label store.

This function was added in software version 01.41.0505.

To improve navigation, the first/top folder shown in the “Label finder” and “File manager” is a short cut to the default label store.

New labels created using the “Label Creator” will always be saved in the default label store.

However, new labels can be created and saved in other label folders using the “Label finder”, see [Home Screen on page 142](#).

To set the default label store:

1. Select *Home > Setup > Editor defaults > Properties*.
2. Select the *Select default label store path* text box.
3. Navigate to and open the folder that you would like to set as the new default label store.

Note Do not choose an “IMAGE” folder. The “IMAGE” folders are for image/graphic element source files only.

4. Select *Select* and select *OK*.

You have now set a different folder as the default store. All labels created in the “Label Creator” will be saved to this folder.

Import a Label

To import a label into the Ax-Series from a USB memory device:

1. Insert the USB memory device containing the label file into a USB port on the Ax-Series.
2. Wait until the USB icon on the information bar turns green.



3. Select *Home > Setup > File Manager*.
4. Open the *USB* folder.
5. Open the folder that contains the label file.
6. Select the tick box next to the label to be imported.



EXAMPLE LABEL.lbl



7. Select the *Copy* or *Cut* icon.



8. Navigate to and open the *Labels* folder.
9. Select the *Paste* icon.



10. Remove the USB memory device from the Ax-Series.

Import Single Jet Labels into Duo Printers

Single jet labels can be imported into a Duo printer in the normal way as described above.

However, when the label is opened in the Editor a prompt will appear to specify loading it in the upper, lower or both regions.

Export a Label

To export a label from the Ax-Series to a USB memory device:

1. Insert a USB memory device into a USB port on the Ax-Series.
2. Wait until the USB icon on the information bar turns green.



3. Select *Home > Setup > File Manager*.
4. Open the *Labels* folder.
5. Select the tick box next to the label to be exported.



6. Select the *Copy* or *Cut* icon.



7. Navigate to and open the *USB* folder.
8. Select the *Paste* icon.



9. Remove the USB memory device from the Ax-Series.

Delete a Label

To delete a label from the Labels folder:

1. Select *Home > Setup > File Manager*.
2. Open the *Label* folder.
3. Select the tick box next to the label to be deleted.



4. Select the *Delete* icon.



BACKUP PRINTER

There are 3 types of file information that can be backed up to a USB device:

| Backup Type | Details |
|-----------------|--|
| Label | <p>Note This feature is not available for the Ax130i.</p> <p>Backup all of the labels in the printer's label store. A label backup can also be restored to other printers or retained to restore the original printer's labels.</p> |
| Service | <p>Backup information that is useful to a service engineer such as log files, labels, screen shots, diagnostic data, and jet profile information. A service backup cannot be copied back to the printer as the files are for information only.</p> |
| Production Line | <p>Note This feature is not available for the Ax130i.</p> <p>Backup the printer's line movement, print trigger and I/O port settings. These settings can be transferred and restored to other printers or used to restore the original printer's settings. This feature is designed to make moving printers between production lines, or swapping printers onto a production line easier and faster.</p> |

Create a Backup

To create a backup:

1. Insert the USB memory device into a USB port on the Ax-Series.
2. Wait until the USB icon on the information bar turns green.



3. Select, *Home > Setup > Backup & Restore > Backup*.

Notes

1. The "Select folder for backup" setting can be used to select a specific folder on the USB flash drive to save the backup file to.
2. The "Optional reference string" setting can be used to enter information that will help identify the backup file after it is saved on the USB flash drive.
4. Select the *Select backup type* drop down setting and choose *Label*, *Service* or *Production line*.
5. Select *Backup*.
6. A prompt will display when the backup is complete, select *OK* to clear the prompt.
7. Remove the USB memory device from the Ax-Series.

Restore Labels or Production Line from a Backup

Only label and production line backup files can be restored to the printer.

-
- Notes
1. It is necessary to restart the printer as part of the restore procedure.
 2. It is recommended to backup the printer's Labels and Scripts folders before restoring label or production line settings. When a restore is made, all files in the Labels and Scripts folders will be overwritten.
 3. If the production line settings are restored to a different printer, both printers need to be on the same software version.
-


To restore labels or production line settings from a backup file:

1. Insert the USB memory device into a USB port on the Ax-Series.

Note For Ax130i, the USB port is located inside the front door.

2. Wait until the USB icon on the information bar turns green.



3. Select, *Home > Setup > Backup & Restore > Restore*.
4. Select the *Select backup file* setting.
5. Select the backup file.
6. Select *Restore*.
7. A prompt will display when the restore is complete, select *OK* to clear the prompt.
8. Remove the USB flash drive.
9. Press and hold the  button for 2 seconds and restart the printer.

EDITOR DEFAULTS

Set the default label settings. New labels will use these defaults.

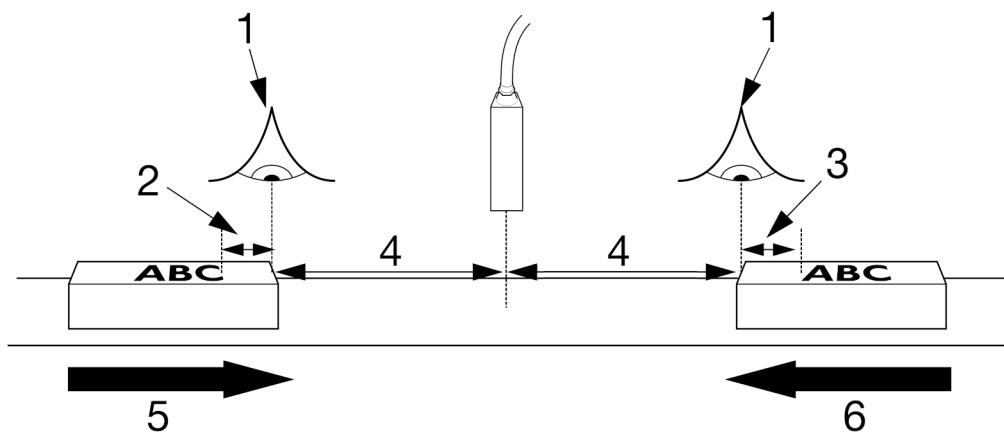
Print Offset

Note This feature is not available for Ax130i.

Home > Setup > Editor Defaults > Properties

The *Forward offset* is used to adjust the position of the label on the print surface. If the print head is on a traversing line the *Reverse offset* can also be set.

Note This is a global print setting, label designs can also be saved with their own individual print offset, see [Label Settings on page 171](#).



| # | Explanation |
|---|------------------------------------|
| 1 | Print Trigger |
| 2 | Reverse Offset |
| 3 | Forward Offset |
| 4 | Print Delay |
| 5 | Direction of print (Left to Right) |
| 6 | Direction of print (Right to Left) |

Repeat Print

Note This feature is not available for Ax130i.

Home > Setup > Editor Defaults > Properties

Labels can be repeat printed using one of two different methods. Or, repeat printing can be turned off as described in the table below.

Note This is a global setting which will affect all labels sent to print. To configure an individual label to print repeatedly, see [Repeat Mode on page 175](#).

| Setting Name | Explanation |
|--------------|---|
| Off | The printed label will not be repeated. |
| Counted | Repeatedly print the same label for a specified number of times after a single pulsed print trigger signal is received. See Counted on page 222 . Typical application: Printing on lengths of extrusions of different specification each requiring a different label. |
| Continuous | Continuously print the same label when a constant print trigger signal is received by the printer. The printer will stop printing when the print trigger signal stops. See Continuous on page 223 . Typical application: Printing on cable. |

Counted

Note This feature is not available for Ax130i.

To set Counted repeat printing:

1. Select *Home > Setup > Editor Defaults > Properties*.
2. Configure the settings described in the table below:

| Setting Name | Explanation |
|---------------------------|--|
| Repeat | Select <i>Counted</i> . |
| Repeat count | Enter the number of times to repeat the current label. Note The number of repeat counts is extra to the initial print, i.e. 6 will print 6 extra prints (7 in total). |
| Repeat spacing type | Select how the distance between prints is defined: <ul style="list-style-type: none"> • <i>Space by pitch</i> - The distance between the start of one print and the start of the next print defined in mm • <i>Space by gap</i> - The distance between the start of one print and the start of the next print defined using the gap between characters in mm. |
| Repeat Spacing (mm) | Set the distance from the start of one print to the start of the next. |
| Repeat: Update each print | Tick the <i>Update each print</i> tick box to update any clock and counter information contained in the label with each print. Alternatively, Untick the <i>Update each print</i> tick box to keep the same information on each print. |
| Repeat: End of product | Use the print trigger signal to set the behaviour of repeat printing: <ul style="list-style-type: none"> • <i>Ignore</i> - End of detected product will have no effect on repeat printing • <i>Complete</i> - If the end of product is detected between prints, one more repeat label will be printed. If the end of product is detected while printing a repeat, the print will complete and no further repeats will be printed • <i>Cancel</i> - If the end of product is detected between prints, no further repeats will be printed (and the pending print will be canceled). If end of product is detected while printing a repeat, the print will complete. |

Continuous

Note This feature is not available for Ax130i.

To set Continuous repeat printing:

1. Select *Home > Setup > Editor Defaults > Properties*.
2. Configure the settings described in the table below:

| Setting Name | Explanation |
|---------------------------|---|
| Repeat | Select <i>Continuous</i> . |
| Repeat spacing type | Select how the distance between prints is defined: <ul style="list-style-type: none"> • <i>Space by pitch</i> - The distance between the start of one print and the start of the next print defined in mm • <i>Space by gap</i> - The distance between the start of one print and the start of the next print defined using the gap between characters in mm. |
| Repeat Spacing (mm) | Set the distance from the start of one print to the start of the next. |
| Repeat: Update each print | Tick the <i>Update each print</i> tick box to update any clock and counter information contained in the label with each print. Alternatively, Untick the <i>Update each print</i> tick box to keep the same information on each print. |
| Repeat: End of product | Use the print trigger signal to set the behavior of repeat printing: <ul style="list-style-type: none"> • <i>Ignore</i> - End of detected product will have no effect on repeat printing • <i>Complete</i> - If the end of product is detected between prints, one more repeat label will be printed. If the end of product is detected while printing a repeat, the print will complete and no further repeats will be printed • <i>Cancel</i> - If the end of product is detected between prints, no further repeats will be printed (and the pending print will be canceled). If end of product is detected while printing a repeat, the print will complete. |

Default Font Size

Note This feature is not available for Ax130i.

To set the default font size for label text elements:

1. Select *Home > Setup > Editor Defaults > Properties*.
2. Select the *Default font size for text elements (drops)* drop down setting.
3. Select the a new default font size option.

Prevent Duplicate Prompts

Note This feature is not available for Ax130i.

If a label containing a prompted field is sent to print on a printer equipped with a duo print head, the prompt will be displayed for each ink jet. This setting will stop the prompt being displayed twice when the setting is enabled.

To enable or disable duplicate prompts:

1. Select *Home > Setup > Editor Defaults > Properties*.
2. Select or deselect the *Prevent duplicate prompts* for prompted fields tick box.

Clocks / Dates

Home > Setup > Editor defaults > Clocks / dates

View and change:

- Hour codes (not available for Ax130i)
- Day of week codes (not available for Ax130i)
- Day of month codes (not available for Ax130i)
- Month codes (not available for Ax130i)
- Day names
- Month names.

REGIONAL SETTINGS

Set the Language and Keyboard

Home > Setup > Regional > Language and keyboard

Set:

- Language
- Keyboard layout (not available for Ax130i)
- IME Scheme (not available for Ax130i)
- Primary currency (not available for Ax130i).

Set the Master Clock

Home > Setup > Regional > Date and time

| | |
|------|--|
| Note | The correct System Date and System Time values must be entered to print accurate date or time elements within label designs. |
|------|--|

Set:

- System date
- System time (24 hour clock).

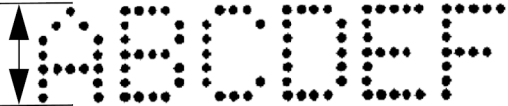
GLOBAL PRINT SETTINGS

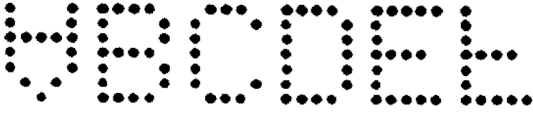
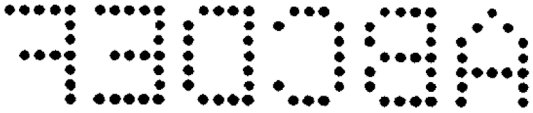
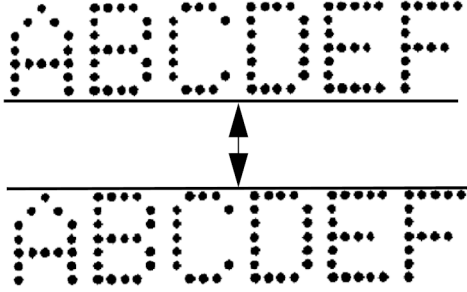
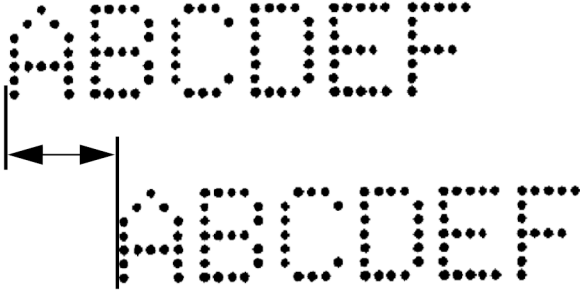
Position / Orientation

- Notes
1. Everyday adjustments to print height, print delay, invert and reverse should be made on the Print Optimisation screen, see [Print Optimisation Screen on page 147](#).
 2. These are global settings which will affect all label designs when printed. The Invert and Reverse settings can also be configured and saved with individual label designs, see [Label Settings on page 171](#).

To adjust the label print position and orientation:

1. Select *Home > Setup > Global print settings > Position / orientation*.
2. View and change the settings listed below:

| Setting Name | Explanation |
|-----------------------------|---|
| Calibrate | Note This feature is not available for Ax130i. Use the print height calibration wizard to set the print height, see Print Height Calibration Wizard on page 129 . |
| Print delay (mm) | Set the distance between a product sensor detecting a product and the label being printed. |
| Internal stroke rate (mm/s) | Note This setting is only available if the <i>Encoder input</i> is set to internal, see page Internal Encoder (Fixed Printing Speed) Setup on page 105 . If an internal encoder is used to set the print speed this setting will define the print speed in millimetres per second. This setting is the same as the <i>Speed (mm/s)</i> setting on the <i>Line movement</i> screen, see Internal Encoder (Fixed Printing Speed) Setup on page 105 . |
| Print height (%) | Adjust the print height percentage.  Notes <ol style="list-style-type: none"> 1. Jet 1 and Jet 2 settings are available for the Duo Print Head only. 2. Adjustment of this setting on a printer equipped with a Duo Print Head will change the accuracy of the Jet Gap (mm) setting. |

| Setting Name | Explanation |
|---------------|--|
| Invert | <p>Invert the label.</p>  |
| Reverse | <p>Reverse the label.</p>  |
| Bold | <p>Note This feature is not available for Ax130i. Print text in bold.</p> |
| Jet gap (mm) | <p>Adjust the vertical gap between the two ink jet printing areas.</p>  <p>Notes</p> <ol style="list-style-type: none"> 1. For Duo Print Head only. 2. If the <i>Print Height (%)</i> is also adjusted, the accuracy of the <i>Jet gap (mm)</i> value will be effected. |
| Region offset | <p>Note For i-Pulse Duo Print Head only. Adjust the horizontal offset between the two ink jet printing areas.</p>  |

Content

Note This feature is not available for Ax130i.

1. Select *Home > Setup > Global Print Settings > Content*.
2. View and change the settings listed below:

| Setting Name | Explanation |
|---------------------------------|--|
| Maximum active prints | <p>Note It is recommended to leave this set to 2.</p> <p>This setting defines the number of active buffered print labels.</p> <p>2 = Default setting for most Domino applications.</p> <p>1 = Not recommended for use, but may be used in the future for high speed applications.</p> |
| Persistent script variables | Select <i>Reset All</i> to reset all persistent script variables. |
| Raise good print on abort | When this setting is enabled, a good print signal will be sent from an assigned GPIO or user port output pin if a print is aborted. |
| Include label script in preview | <p>When this setting is enabled, a preview of script element content will be shown on the home screen label preview.</p> <p>When this setting is disabled, a place holder for script elements will be shown instead.</p> |

STATUSES, ALERTS AND FAULT FINDING

Statuses

Shown below are some printer statuses and their explanations. Printer statuses are displayed on the Status tab at the top of the QuickStep interface.

| Status Name | Explanation |
|-----------------------------|--|
| Idle | The ink jet is off, and the printer will not print, but the user interface can still be used. |
| Sequencing On | The printer is getting ready to print. Once completed, the printer will be in a Ready state. |
| Printhead warming up | The printer is heating the print head to the optimum temperature for the ink. |
| Ready | The printer is ready to print. If a label is online, it will print on receiving a product detect signal. |
| Sequencing Off | The printer is changing from the Ready state to the Idle state. |
| Gutter clearing in progress | The print head gutter is being cleared to stop ink from drying and blocking the gutter. |

Alerts

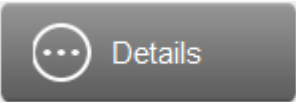

Alerts are displayed on the status tab at the top of the QuickStep interface. When multiple alerts occur, only the highest alert will be displayed. If multiple alerts occur, the full list of alerts can be viewed by selecting the status tab.

There are two different alert levels:

| Alert Level | Status Tab Colour | Explanation |
|-------------|-------------------|--|
| Error | Red | There is a serious problem with the printer. Printing may stop until the alert is cleared. |
| Warning | Amber | There is a problem with the printer but printing will continue. |

To clear an alert or view information about how to solve the alert:

1. Select the *Status* tab.
2. The icons illustrated below will become available to select.

| Icon | Explanation |
|---|--|
|  | <p>Select the <i>Details</i> icon to display the following information:</p> <ul style="list-style-type: none"> • Date and time the alert occurred • Alert ID number • Alert level • Detailed information about the alert • A solve icon which can be pressed to display recommendations for fixing the problem • A QR code which can be scanned by a mobile phone or tablet device to show a video or further details about how to solve the alert • A clear button to acknowledge and clear the alert. |
|  | <ul style="list-style-type: none"> • Select this icon to acknowledge and clear the alert. If this icon is greyed out, then an action must be performed before the alert can be cleared. |

Alert ID Codes

The table below describes some alerts which the printer might encounter. The table also lists possible causes and remedies.

If an alert occurs that is not listed in the table:

- Select the Solve icon to view options for solving the alert.
- Scan the QR code with a mobile phone or tablet device to show a video or further details about how to solve the alert.
- Contact the local support office for further help.

| Alert ID | Description | Explanation |
|----------|---|--|
| 10 | Print Speed too high - Print max speed limit in force | <p>Incorrect print configuration for the production line speed. There are three solutions available:</p> <ul style="list-style-type: none"> • Reduce the production line speed • Increase the <i>Stroke pitch (mm/stroke)</i> value, see Edit a Label Layout on page 170 • Reduce the print quality to allow the label to be printed faster, see Edit a Label Layout on page 170. |

| Alert ID | Description | Explanation |
|----------|-----------------------------|---|
| 15 | Deflection EHT has tripped. | Spark across the EHT plates. Run the print height calibration wizard and slightly reduce the <i>EHT (%)</i> value, see Print Height Calibration Wizard on page 129 . Note The EHT (%) value must only be adjusted in small steps. |
| | | Ink build up on charge electrode. Clean the print head: <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | Partially blocked nozzle. Run the nozzle unblocking wizard, see Clearing a Blocked Nozzle on page 255 . |
| | | Ink jet clipping the gutter. Check the print height calibration, see Print Height Calibration Wizard on page 129 . Also, check the ink jet alignment: <ul style="list-style-type: none"> • i-Pulse Ink Jet Alignment Check on page 261 • i-Pulse Duo Ink Jet Alignment Check on page 275 • i-Pulse RS Ink Jet Alignment Check on page 281. |
| | | Excessive print height. Run the print height calibration wizard, see Print Height Calibration Wizard on page 129 . |
| | | Ink leak at nozzle. Check for ink drops around the nozzle and call an engineer certified by Domino to repair or replace the nozzle. |
| 20 | Ink Level Below Minimum | The ink level is running low. Fit a new ink cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |

| Alert ID | Description | Explanation |
|----------|------------------------|---|
| 24 | Gutter Dry at Start-up | <p>The printer was not shut down correctly. Clean the print head and restart the printer:</p> <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | <p>Blocked nozzle. Run the nozzle unblocking wizard, see Clearing a Blocked Nozzle on page 255.</p> |
| | | <p>Dried ink in the gutter. Clean the print head and restart the printer:</p> <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | <p>Ink jet incorrectly aligned. Check the ink jet alignment:</p> <ul style="list-style-type: none"> • i-Pulse Ink Jet Alignment Check on page 261 • i-Pulse2 Ink Jet Alignment Check on page 270 • i-Pulse Duo Ink Jet Alignment Check on page 275 • i-Pulse RS Ink Jet Alignment Check on page 281. |
| 25 | Add make-up cartridge | <p>A new make-up cartridge is required. Fit a new make-up cartridge, see Ink and Make-up Cartridge Replacement on page 242.</p> |
| 41 | Ink level too high | <p>The ink viscosity has increased, and extra make-up has been added to the ink causing the level to increase. Replace the ITM, see ITM Replacement on page 248. Or: Remove the ITM, empty some of the ink into a suitable container and replace the ITM, see ITM Replacement on page 248. Follow local waste disposal regulations to correctly dispose of waste ink.</p> |
| | | <p>Frequent flushing has occurred, either due to repeated start/stop, repeated flushing or cleaning of the print head. Avoid frequent start/stop and shut down the printer before cleaning the print head.</p> |
| | | <p>The printer has been moved to a different location with the ink and make-up cartridges fitted. Shut down the printer and remove the ink and make-up cartridges before moving the printer.</p> |

OPERATION

| Alert ID | Description | Explanation |
|----------|---------------------------------------|--|
| 53 | Make-up Level Below Minimum | The make-up level is running low. Fit a new make-up cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| 134 | Unexpected shutdown | The printer was not powered off using the correct method. Follow the correct shut down procedure, see Shut Down on page 162 . |
| 139 | Print trigger occurred while printing | The printer received a false trigger signal before the label finished printing. Increase the persistence level for the print trigger, see External Print Trigger Setup on page 121 . |
| | | The product sensor is faulty. Replace the product sensor. |
| | | Label too long for the product. Check the printed label and reduce the label length. |
| 213 | Inspection Required | An inspection is required by an engineer certified by Domino. Contact the local support office to organise an inspection. |
| 234 | Gutter Stall | The operator has cleaned the print head whilst the printer is running. This has caused excess solvent to enter the gutter causing it to stall. The printer will self recover from this fault. Follow the correct print head cleaning procedure: <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | The gutter has stalled. Restart the printer following the correct procedure, see Shut Down on page 162 and Start-up on page 160 . If the fault reoccurs, switch off the printer and contact the local support office. |
| 235 | Gutter Pump not Rotating | The gutter pump has stopped. Restart the printer following the correct procedure, see Shut Down on page 162 and Start-up on page 160 . If the fault reoccurs, switch off the printer and contact the local support office. |
| 236 | Gutter Blocked Attempting to Clear | The printer is attempting to clear an obstruction in the gutter. |

| Alert ID | Description | Explanation |
|----------|--|---|
| 237 | Gutter Blocked | <p>Dried ink in the gutter.</p> <p>Clean the print head and restart the printer:</p> <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | <p>Incorrect shut down procedure followed.</p> <p>Clean the print head and restart the printer:</p> <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | <p>Blocked nozzle.</p> <p>Run the nozzle unblocking wizard, see Clearing a Blocked Nozzle on page 255.</p> |
| | | <p>Ink jet incorrectly aligned.</p> <p>Check the ink jet alignment:</p> <ul style="list-style-type: none"> • i-Pulse Ink Jet Alignment Check on page 261 • i-Pulse2 Ink Jet Alignment Check on page 270 • i-Pulse Duo Ink Jet Alignment Check on page 275 • i-Pulse RS Ink Jet Alignment Check on page 281. |
| 238 | Insufficient gutter vacuum - Retrying | <p>The printer is attempting to increase the vacuum within the gutter. Follow any instructions given on the TouchScreen.</p> |
| 517 | ITM life expired (currently in grace period) | <p>The ITM has reached the end of its life. The printer will continue to operate for a 72 hour grace period.</p> <p>If the ink jet is sequenced off during the grace period a password is required to continue operation.</p> <p>The password should only be used in emergency circumstances, because the ITM will operate longer than the recommended life. Over time, this can negatively affect the printer's reliability, pump life and ink system component life.</p> <ul style="list-style-type: none"> • Replace the ITM, see ITM Replacement on page 248 • Enter the password: itmgrace |
| 520 | Change ITM - ITM Ink Type Incorrect | <p>The ITM which has been fitted is the wrong type.</p> <p>Shut down the printer, remove the ITM and replace it with the correct type, see ITM Replacement on page 248.</p> |
| 521 | Change ITM - ITM Tag Dead | <p>The ITM has reached the end of its life and can no longer be used.</p> <p>Replace the ITM, see ITM Replacement on page 248.</p> |

OPERATION

| Alert ID | Description | Explanation |
|----------|---|--|
| 523 | Change ITM - Expired | The ITM has reached the end of its life and can no longer be used. Replace the ITM, see ITM Replacement on page 248 . |
| 524 | Insert ITM - No Valid ITM present | No ITM fitted. Fit an ITM, see ITM Installation on page 93 . |
| | | ITM not fitted correctly Check that the ITM is correctly fitted in the printer cabinet, see ITM Replacement on page 248 . |
| | | The RFID tag on the ITM is not working correctly. Replace the ITM, see ITM Replacement on page 248 . |
| 528 | Add ink cartridge | A new ink cartridge is required. Fit a new ink cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| 530 | Change Ink Cartridge - Ink Type Incorrect | The printer has detected that the ink cartridge fitted (or offered up to the QMM) is not the correct type. If the cartridge has been fitted, immediately switch off the printer and contact the local support office. |
| 531 | Change Ink Cartridge - Ink Cartridge Expired | The ink cartridge has expired, and a new cartridge is required. Fit a new ink cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| 532 | Change Ink Cartridge - Empty | The ink cartridge is empty. Fit a new ink cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| 534 | Insert Ink Cartridge - No Valid Ink Cartridge Present | No ink cartridge fitted. Fit an ink cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| | | Ink cartridge not fitted correctly Check that the ink cartridge is correctly fitted in the printer cabinet, see Ink and Make-up Cartridge Replacement on page 242 . |
| | | The RFID tag on the ink cartridge is not working correctly. Replace the ink cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| 539 | Insert Make-up Cartridge | A new make-up cartridge is required. Fit a new make-up cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| 540 | Make-up low | The make-up level in the make-up module (MUM) is low. Fit a new make-up cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |
| 542 | Change Make-up Cartridge - Cartridge Empty | A new make-up cartridge is required. Fit a new make-up cartridge, see Ink and Make-up Cartridge Replacement on page 242 . |

OPERATION

| Alert ID | Description | Explanation |
|----------|---|---|
| 543 | Change Make-up Cartridge - Cartridge Dead | <p>The make-up cartridge has reached the end of its life and can no longer be used.</p> <p>Fit a new make-up cartridge, see Ink and Make-up Cartridge Replacement on page 242.</p> |
| 544 | Insert Make-up Cartridge - No valid Cartridge present | <p>No make-up cartridge fitted.</p> <p>Fit a make-up cartridge, see Ink and Make-up Cartridge Installation on page 96.</p> |
| | | <p>Make-up cartridge not fitted correctly</p> <p>Check that the make-up cartridge is correctly fitted in the printer cabinet, see Ink and Make-up Cartridge Replacement on page 242.</p> |
| | | <p>The RFID tag on the make-up cartridge is not working correctly.</p> <p>Replace the make-up cartridge, see Ink and Make-up Cartridge Replacement on page 242.</p> |
| 556 | Print head warming up | <p>The print head is warming up.</p> <p>If this status persists, contact the local support office.</p> |
| 557 | Misaligned jet at start-up | <p>The gutter is blocked.</p> <p>Clean the print head:</p> <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | <p>The nozzle is blocked.</p> <p>Run the nozzle unblocking wizard, see Clearing a Blocked Nozzle on page 255.</p> |
| | | <p>The ink jet is misaligned.</p> <p>Check the ink jet:</p> <ul style="list-style-type: none"> • i-Pulse Ink Jet Alignment Check on page 261 • i-Pulse2 Ink Jet Alignment Check on page 270 • i-Pulse Duo Ink Jet Alignment Check on page 275 • i-Pulse RS Ink Jet Alignment Check on page 281. |
| 561 | The label print height is out of range | <p>The <i>Height (%)</i> setting in the label has been set too high. The printer will not print at the value that has been set but will print at the highest possible value.</p> <p>Reduce the <i>Height (%)</i> to clear the alert, see Edit a Label Layout on page 170.</p> |

| Alert ID | Description | Explanation |
|----------|---|---|
| 572 | The printed label is too long, speed too high or the shaft encoder has stopped mid-label. | Labels are being printed too close together meaning there is not enough phasing time. There are two solutions are available: <ul style="list-style-type: none"> • Increase the gap between printed labels. • Lower the production line speed. |
| 1017 | Print delay too short | The product detect persistence is set too long. Reduce the product detect persistence, see External Print Trigger Setup on page 121 . |
| | | The product sensor and print head are too close together. Physically increase the distance between the product sensor and print head, then reset the print trigger settings, see External Print Trigger Setup on page 121 . |
| | | The print delay setting is too short. Increase the print delay setting, see External Print Trigger Setup on page 121 . |
| 1312 | Charge Detection Error | The printer cannot detect ink drops within the charge electrode due to a build of ink of the charge electrode. Clean the print head and restart the printer: <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| | | The ink jet is not modulating correctly. Check the ink jet modulation and break-up within the charge electrode. If this is not visible contact the local support office. |
| | | Ink jet incorrectly aligned. Check the ink jet alignment: <ul style="list-style-type: none"> • i-Pulse Ink Jet Alignment Check on page 261 • i-Pulse2 Ink Jet Alignment Check on page 270 • i-Pulse Duo Ink Jet Alignment Check on page 275 • i-Pulse RS Ink Jet Alignment Check on page 281. |
| 1313 | Recovered Successfully | The printer has recovered from a previous fault or alert, no user action should be required. If this alert repeats and the print quality is reduced, contact the local support office. |
| 1370 | Print head cover removed | The i-Pulse RS print head contains a sensor to detect when the print head cover is removed. Replace the print head cover to clear the alert and resume printing. |

OPERATION










| Alert ID | Description | Explanation |
|----------|------------------|---|
| 1833 | Viscometer fault | The viscometer or valve has failed. Replace viscometer or valve if necessary. Printer sequenced off to prevent excessively high viscosity. |

Fault Finding







| Issue | Possible Cause | Remedy |
|--|--|---|
| Not Printing, error Gutter Dry is displayed | Blocked Nozzle. | <i>Home > Setup > Wizards > Nozzle unblocking.</i> |
| Ink on deflector plates and/or charge electrode, possible faults could be: <ul style="list-style-type: none"> • Ink detected on Charge Electrode • Charge detection has failed • Fall back jet modulation in use • Deflection EHT has tripped. | Blocked Nozzle or dirty print head. | Clean the print head: <ul style="list-style-type: none"> • i-Pulse Print Head Cleaning on page 257 • i-Pulse2 Print Head Cleaning on page 264 • i-Pulse Duo Print Head Cleaning on page 271 • i-Pulse RS Print Head Cleaning on page 276. |
| No print occurs but message has been sent. | Faulty sensor. | Check the sensor and its position. |
| | Faulty encoder. | Check the encoder is outputting signals (can be seen via the Ext I/F screen). |
| | Incorrect setting of sensor. | Check that the active level is set correctly. |
| | Print delay and/or offset set incorrectly. | Check the delay and offset for this message are suitable, adjust as required. |
| | Enable/Disable (Send to Print) button has been pressed when in the Home screen | This button will toggle printing within the Home screen, so only necessary action is to press button again. |

PART 5 MAINTENANCE & TROUBLESHOOTING

GENERAL MAINTENANCE

| | |
|---|--|
| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| WARNING Flammable Material. Risk of Fire. | |
|   | <p>Do not let the printer print into a container, if the container is NOT made of a conducting material and the container is NOT connected to earth (ground).</p> <p>If the printer is ever operated in a way that lets it print into a container, the container must be made of conducting material and be securely connected to earth (ground). The electrostatic charges on the ink drops used for printing may ignite ink in the container.</p> |
| WARNING Flammable Material. Risk of Fire. | |
|   | <p>Do not smoke or allow naked flames (or other sources of ignition) in the vicinity of any inks or solvents.</p> <p>Inks and solvents are flammable and can produce flammable vapour. Smoking, naked flames or other ignition sources may ignite inks or solvents.</p> |
| WARNING Automatic Start-up. Risk of Injury. | |
|  | <p>If the print head is not in the correct position for printing, disable any external input that can start the ink jet or trigger printing.</p> <p>If the print head is not in the correct position for printing when an input to start the ink jet or trigger a print is sent to the printer, injury to personnel may occur.</p> |
| WARNING Unsealed Container. Risk of Fluid Spill. | |
|  | <p>Do not tip or overfill unsealed fluid containers.</p> <p>Wash stations and beakers are unsealed containers. A wash station or a beaker will spill fluid or ink, if it is tipped over or if it is overfilled.</p> |

Ink and Make-up Cartridge Replacement

| | |
|---|--|
| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| WARNING Pressurised Containers. Risk of Injury. | |
|  | <p>Do not tamper with the valves on the ink and make-up cartridges.</p> <p>Ink and make-up cartridges may become pressurised by changing atmospheric conditions. If the valve on the cartridge is tampered with, pressurised ink or make-up may injure personnel.</p> |
| CAUTION Low Make-up Hazard. Risk of Ink System Damage. | |
|  | <p>Replace the make-up cartridge when prompted.</p> <p>If the make-up cartridge is not replaced when required, the ink viscosity will go outside the printer's operating limits. Print head flushing will not be carried out when the printer is shut down. Ink may be deposited on the print head components and dry causing a blockage.</p> |
| CAUTION Overfilling Hazard. Risk of Fluid Leak. | |
|  | <p>Do not replace a cartridge until prompted.</p> <p>Only replace the ink or make-up cartridge when prompted by the user interface or status lights. If the make-up or ink cartridge is replaced when it is not needed, the ink level in the ITM could overfill. This will cause ink to leak out of the printer cabinet.</p> |
| CAUTION Hazardous Chemicals. Risk to the environment. | |
|  | <p>Obey local waste disposal regulations, to dispose of used cartridges.</p> <p>Used ink and make-up cartridges contain residual chemicals that are hazardous to the environment.</p> |

Shake heavy duty ink cartridges for at least two minutes before fitting.

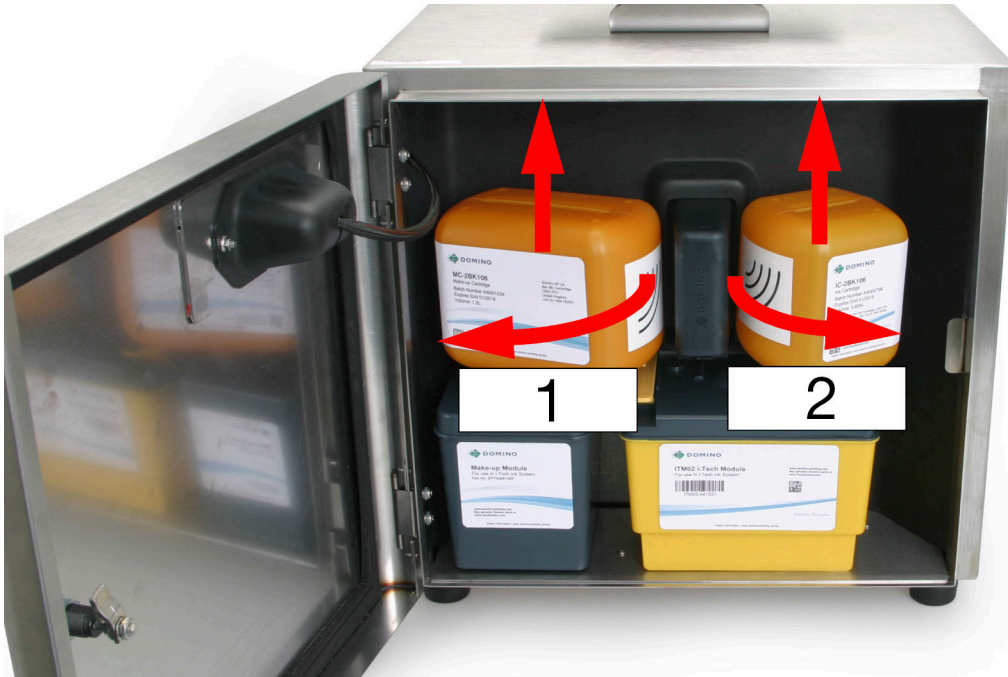
When the ink or make-up cartridges need to be replaced, the messages 'Add Ink Cartridge' or 'Add Make-up Cartridge' will appear on the TouchScreen status tab. If these messages are ignored, the messages 'Ink Level Below Minimum' and 'Make-up Level Below Minimum' will appear. Also, the amber alert light and the ink or make-up level alert light on the printer cabinet will illuminate.

When the ink or make-up cartridges require replacing immediately, the messages 'Change Ink Cartridge - Empty' or 'Change Make-up Cartridge - Cartridge Empty' will appear on the TouchScreen status tab. Also, the red alert light will illuminate and the ink or make-up light on the printer cabinet will start flashing. If the ink or make-up cartridge is not replaced at this stage, the printer will stop working and will not continue printing until a new cartridge is fitted.

Tools required: 6 mm hex key.

To replace the ink or make-up cartridge:

1. Open the access door to the printer's ink compartment.
2. Remove the old cartridges by rotating the ink cartridge anti-clockwise and the make-up cartridge clockwise to free them before lifting the cartridge away.



| # | Description |
|---|-------------------|
| 1 | Make-up Cartridge |
| 2 | Ink Cartridge |

3. Before breaking the tab on the new cartridge and inserting it, hold the cartridge near the Quality Management Module (QMM) to check that the ink or make-up type is correct. The lights on the QMM will flash amber to indicate that the RFID tags are being read. When the RFID tags have successfully been read and validated, the lights will turn green. See [QMM \(Quality Management Module\) Status Lights on page 53](#).

- Notes
1. If a fault is detected, the QMM lights will turn red and an alert will be displayed on the Status tab.
 2. If the RFID tag cannot be read, or an RFID tag is not present, the QMM lights will turn solid amber.
4. Insert a 6 mm hex key into the top of the new cartridge, twist to break the sealing tab and remove the sealing tab.



5. Push the ink cartridge onto the ITM, or push the make-up cartridge onto the make-up module.



6. Rotate the ink cartridge clockwise and the make-up cartridge anti-clockwise. Ensure that the label is facing towards you.





MAINTENANCE & TROUBLESHOOTING



| # | Description |
|---|-------------------|
| 1 | Make-up Cartridge |
| 2 | Ink Cartridge |

7. Check for leaks inside the printer.
8. Close the access door to the printer ink compartment.
9. Dispose of empty cartridges by following local waste disposal regulations.


Make-up Module Filter Replacement

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|--|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Contamination Hazard. Risk of Printer Damage. | |
|  | <p>Do not let debris enter the make-up module or Ink Block.</p> <p>Obey good cleanliness procedures at all times. If debris enters the make-up module or ink block, the printer may become damaged.</p> |
| CAUTION Hazardous Chemicals. Risk to the environment. | |
|  | <p>Obey local waste disposal regulations, to dispose of used filters.</p> <p>Used filters contain residual chemicals that are hazardous to the environment.</p> |

Tools required: 6 mm hex key.


The make-up filter is situated in the make-up module. As a user replaceable part, it is coloured yellow.

To replace the make-up filter:








1. If the printer is on, press and hold the  button for 2 seconds and wait for the printer to shut down.
2. Open the access door to the printer ink compartment.
3. If a make-up cartridge is attached to the make-up module, remove it by twisting the cartridge in a clockwise direction and lifting it out of the printer (refer to [Ink and Make-up Cartridge Replacement on page 242](#)).
4. Remove the old make-up filter from the module by inserting a 6 mm hex key into the yellow filter top and unscrewing the filter from the module.



| # | Explanation |
|---|----------------|
| 1 | Make-up Filter |
| 2 | Make-up Module |

5. Use the 6 mm hex key to screw the new make-up filter into the make-up module.
6. Replace the make-up cartridge (if fitted).
7. Press and hold the  button for 2 seconds and wait for the printer to start up.
8. Check inside the printer cabinet for leaks.
9. Shut the ink compartment access door.
10. On the TouchScreen, select *Home > Setup > Wizards > Ink priming*.
11. Select *Start* and follow the on screen instructions to prime the ink system.
12. Dispose of the old make-up filter by following local waste disposal regulations.

ITM Replacement

| | | | |
|---|--|--|--|
| WARNING | | Pressurised Ink System. Risk of Injury. | |
|  | | <p>Shut down the printer and disconnect the electrical power cable, before removing the ITM.</p> <p>The ink system is pressurised. If the printer is not shut down, ink will spray out of the ITM manifold. This may cause injury to personnel.</p> | |
| WARNING | | Hazardous Chemicals. Risk of eye and skin damage. | |
|    | | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> | |
| WARNING | | Pressurised Ink System. Risk of Ink Injury. | |
|  | | <p>When installing the ITM, make sure the retaining clips are fully engaged.</p> <p>If the retaining clips are not fully engaged, ink may spray out of the ink system and cause injury to personnel.</p> | |
| CAUTION | | Contamination Hazard. Risk of Printer Damage. | |
|  | | <p>Do not let debris enter the ITM or Ink Block.</p> <p>Obey good cleanliness procedures at all times. If debris enters the ITM or ink block, the printer may become damaged.</p> | |
| CAUTION | | Hazardous Chemicals. Risk to the environment. | |
|  | | <p>Obey local waste disposal regulations, to dispose of the used ITM and paper towels.</p> <p>The used ITM and paper towels will be contaminated with chemicals that are hazardous to the environment.</p> | |

Replacement ITMs are delivered empty (without ink). It is recommended to keep at least 2 ink cartridges on site for ITM replacement.


The main ink and gutter filters are situated in the ITM and are an integral part of the printer's ink system. Replacement of these filters therefore occurs automatically during scheduled ITM replacement.

The messages, 'The ITM life is soon to expire. Ensure a replacement ITM is available' and 'Intelligent Ink System is in depletion mode to prepare for ITM change' will appear near the end of the ITM life. Printing will not continue beyond the expiry of the ITM life.

The ink system will automatically run down the level of ink in the ink cartridge to a minimum level, so it is usual to replace the ink cartridge at the same time.

Paper towels (or similar) and wash are required for this procedure.

To replace the ITM:

1. If the printer is on, press and hold the  button for 2 seconds and wait for the printer to shut down.
2. Disconnect the power lead from the rear of the printer.
3. Open the access door to the printer ink compartment.
4. If an ink cartridge is attached to the ITM, remove it by twisting the cartridge anti-clockwise and lifting it out of the printer.
5. Pull the two ITM retaining clips upwards away from the ITM.



6. Pull the ITM backwards, withdrawing the connecting manifold from the ink block and remove the old ITM.

Notes

1. If the ITM does not withdraw with moderate pressure, push the ITM fully forward (which will break any seal caused by dry ink) and try again.
2. The manifold pipes will contain residual ink. Take care when removing the ITM to avoid spillage.

7. Unpack the new ITM and remove the sealing strip that protects the ITM manifold.



8. Re-use the sealing strip to seal the manifold and ink cartridge connection on the old ITM.

WARNING

Unsealed Container. Risk of Fluid Spill.



Use the sealing strip to seal the manifold and ink cartridge connection on the old ITM.

If the sealing strip is not used to seal the old ITM, ink may leak out of the ITM and cause injury to personnel.

9. Place paper towel or similar on top of the level sensor modules to catch excess fluid and using wash, remove any dried residual ink from the ink block valve face.



10. Place paper towel (or similar) under the ITM manifold pipes and lubricate the pipes with wash.

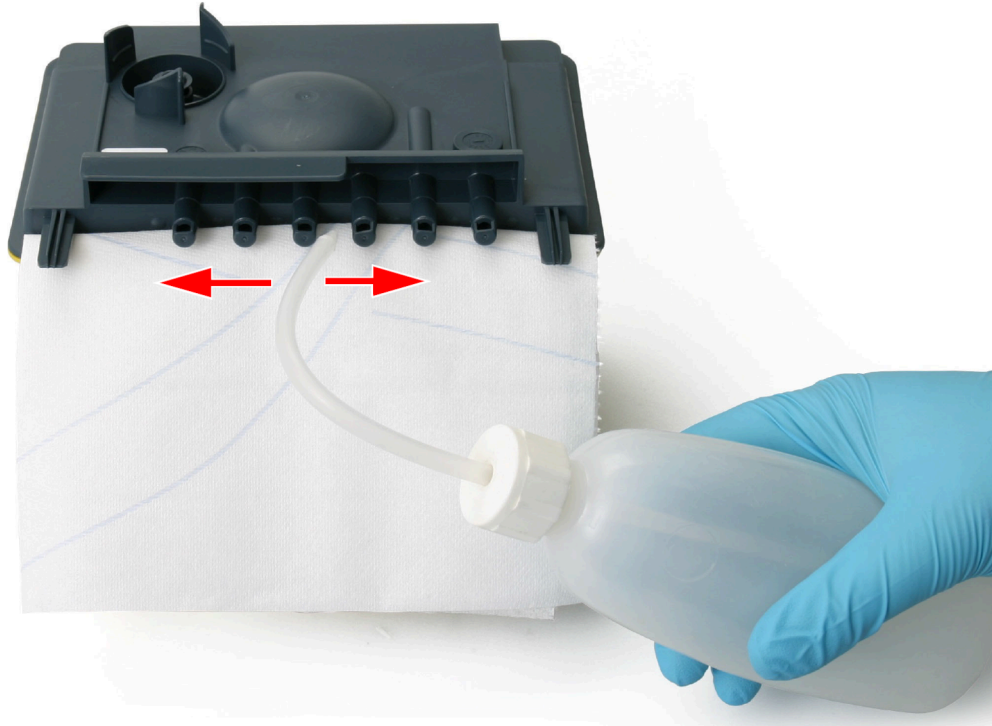
CAUTION

Fluid Hazard. Risk of Fluid Leak.




Lubricate the ITM pipes with wash.

If the pipes are not lubricated, it may not be possible to make a good seal between the ink block and ITM. A bad seal may cause fluid to leak.




11. Insert the ITM between the retaining clips and push the manifold pipes into the ink block.



| WARNING | Pressurised Ink System. Risk of Ink Injury. |
|---|---|
|  | <p>When installing the ITM, make sure the retaining clips are fully engaged.</p> <p>If the retaining clips are not fully engaged, ink may spray out of the ink system and cause injury to personnel.</p> |



12. Continue pushing until the retaining clips engage with a click.
13. Re-connect the power lead to the rear of the printer.
14. Press and hold the  button for 2 seconds and wait for the printer to start.
15. Attach a new ink cartridge to the ITM or re-use the existing ink cartridge. See, [Ink and Make-up Cartridge Replacement on page 242](#).
16. Check the ink compartment for leaks.
17. The status lights on the Quality Management Module (QMM) will flash amber to indicate that the RFID tags on the ITM, Ink Cartridge and Make-up Cartridge are being read. When the RFID tags have successfully been read and validated, the status lights will turn green.

| | |
|-------|--|
| Notes | 1. If a fault is detected, the QMM status lights will turn red and an alert will be displayed on the Status tab. |
| | 2. If the RFID tag cannot be read, or an RFID tag is not present, the QMM status lights will turn solid amber. |

18. Shut the ink compartment access door.
19. Dispose of contaminated paper towels and the old ITM by following local waste disposal regulations.

Air Filter Replacement

WARNING

Hazardous Materials. Risk of Injury.



Wear protective equipment such as gloves and glasses when this procedure is done.

The air filter may be contaminated with hazardous particles.

Air filter replacement is recommended after every 2000 hours of operation but may need to be replaced sooner depending on the operating environment.


Note The air filter is not designed to be cleaned, it must be replaced.

A new air filter can be ordered through WWW.BUYDOMINO.COM

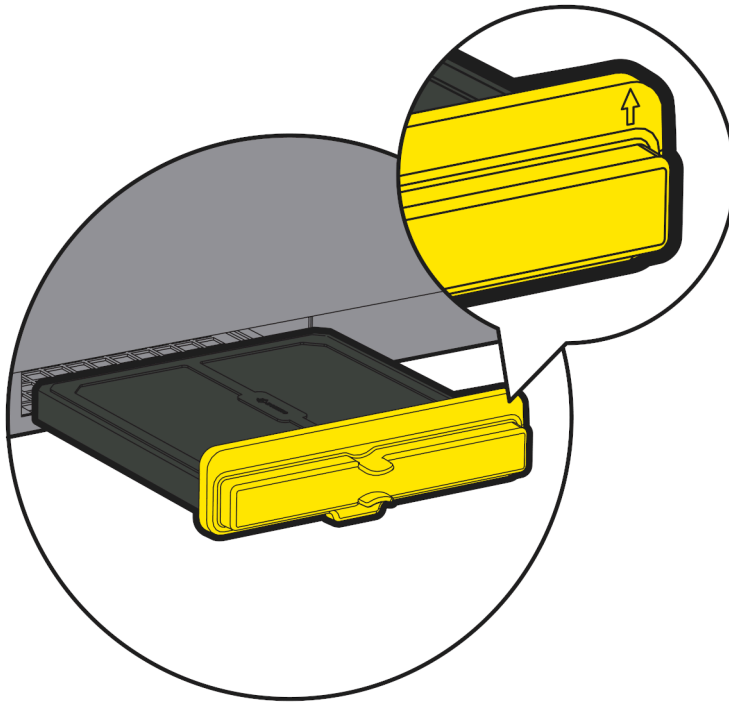
The air filter is located in a slot at the back of the printer. As a user replaceable part, it is coloured yellow.




To replace the air filter:





1. If the printer is on, press and hold the  button for 2 seconds and wait for the printer to shut down.
2. Remove the air filter by holding the yellow exposed part of the filter and pulling it gently out of the filter housing.
3. Replace the air filter with a new unit.

Note Ensure the new air filter is correctly orientated by confirming the arrow symbols on the yellow filter moulding are pointing up. If the filter is inserted upside-down it will get stuck in the printer cabinet.



4. Press and hold the  button for 2 seconds to start up the printer.
5. Select *Home* > *Setup* > *Adjustment* > *Inspection* > *Add...*
6. Select the *Replaced part* drop down menu and select *Air filter*.
7. Select *Operator name* and enter your name.
8. Select *Notes* and enter any notes which may be useful.
9. Select *Save*.

Clearing a Blocked Nozzle

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|--|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. | |
|  | <p>Do not run the nozzle unblocking wizard more than 2 times.</p> <p>Each time the wizard is run, the printer adds make-up to the ink. If the wizard is run too many times the ink viscosity will thin and go out of the printer's operating range. If the nozzle is not clear after 2 attempts, contact the local support office to organise a visit from an engineer certified by Domino.</p> |
| CAUTION Contamination Hazard. Risk of Printer Damage. | |
|  | <p>Do not remove the nozzle assembly from the print head.</p> <p>Removing the nozzle assembly can cause contamination to enter the ink system. The nozzle assembly is also tuned to the print head. If the nozzle assembly is removed, it will need to be re-tuned.</p> |

Clear a blocked nozzle as follows:

1. Ensure the printer is in the Idle state, see [Switch Between the Ready State and Idle State on page 161](#).
2. On the TouchScreen, select *Home > Setup > Wizards > Nozzle unblocking*.
3. Select *Start nozzle unblocking*.
4. Follow the on screen instructions.

Gutter Airflow Adjustment

- Notes
1. Increasing the gutter airflow will increase make-up consumption.
 2. This feature is not available for Ax130i.
-

The gutter in the print head captures unused drops of ink and returns them to the ink system.

Airflow through the gutter is automatically controlled by the printer's software. The printer's software adjusts the gutter pump speed to reach a predicted airflow target.

If the gutter is not clearing ink, gutter stall alerts are occurring or the gutter block is messy, the gutter airflow can be increased manually.

To adjust the gutter airflow:




1. Select *Home > Setup > Advanced > Gutter*.
2. Increase the *Airflow adjustment (ml/min)* value until the issue is resolved.

I-PULSE PRINT HEAD MAINTENANCE

Note Straight, V90 and H90.




i-Pulse Print Head Cleaning

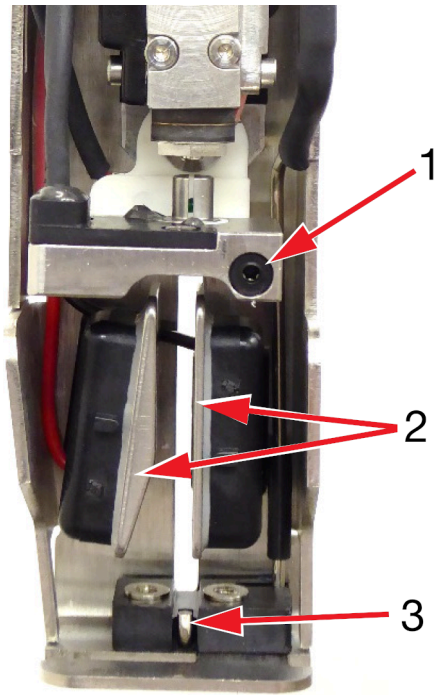
| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|--|---|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. | |
|  | <p>Switch off the printer before starting this procedure.</p> <p>If the printer is running when this procedure is done, wash fluid may be sucked into the ink system through the gutter. This may cause the viscosity of the ink to become too thin.</p> |

Required tools and equipment: T6 torx driver, lint free tissue, and wash.

Note The correct wash type is listed on the printer's internal configuration label.

Clean the print head as follows:




1. If the printer is on, press and hold the  button for 2 seconds and wait for the printer to shut down.
2. Disconnect the power lead from the rear of the printer.
3. At the print head, remove the holster by pressing in the two holster retaining clips on the sides of the print head.
4. Remove the internal cover by gently squeezing in the sides to release the clips and lifting the lower part away from the print head and gently pulling downwards.
5. Follow the annotated instructions in the following illustration.




| # | Explanation |
|---|---|
| 1 | <ul style="list-style-type: none"> • Loosen screw and remove the charge electrode • Clean in the slot with the correct wash type • Dry using lint free tissue. |
| 2 | Clean any ink residue from deflector plates. |
| 3 | Clean any ink residue from gutter area. |


6. Replace the charge electrode.
7. Replace the print head holster.

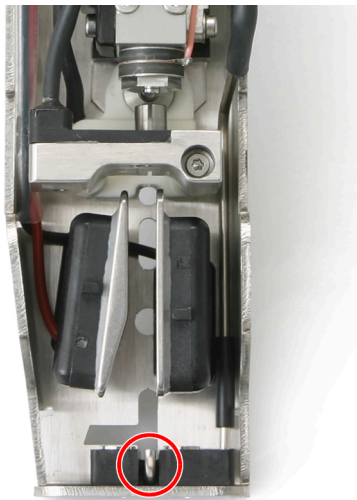
i-Pulse Gutter Cleaning

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |


To clean the gutter:

1. Ensure the printer is on and in the Idle state.
2. At the print head, press in the two retaining clips on the sides of the print head and remove the holster.
3. On the TouchPanel, select *Home > Setup > Advanced > Gutter*.
4. Tick the *Gutter pump at maximum speed* tick box.
5. Select the  icon on the Information Bar.
6. Swipe the screen from right to left to navigate to the *Live status* screen.
7. Observe the *Vacuum pressure (mbar)* value.
8. If the *Vacuum pressure (mbar)* value is greater than -180 it is likely that the gutter pipe is partially blocked with dried ink. Squirt a small amount of solvent into the gutter pipe and wait for the *Vacuum pressure (mbar)* value to stabilise.




| CAUTION Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. | |
|---|--|
|  | <p>Do not squirt large amounts of wash into the gutter.</p> <p>If a large amount of wash is squirted into the gutter, the viscosity of the ink may become too thin.</p> |



9. If the *Vacuum pressure (mbar)* value is now lower than -180 continue to the next step. If the *Vacuum pressure (mbar)* value is still greater than -180 repeat step (8).

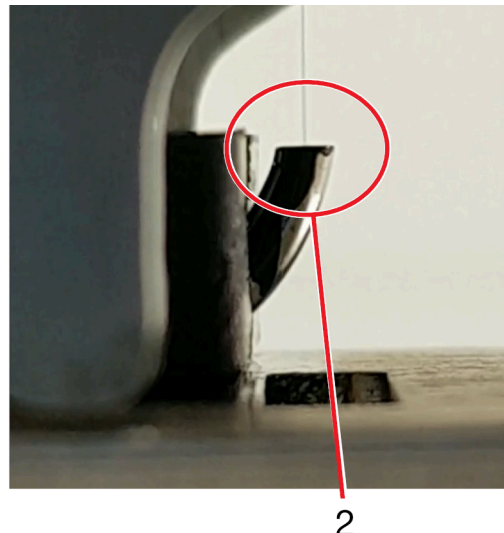
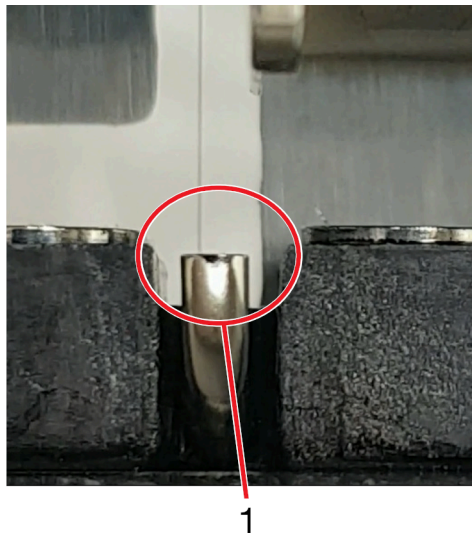
10. Select the  icon at the bottom of the screen.
11. Select *Home > Setup > Advanced > Gutter*.
12. Untick the *Gutter pump at maximum speed* tick box.
13. Replace the print head holster.

i-Pulse Ink Jet Alignment Check

| WARNING | Hazardous Chemicals. Risk of eye and skin damage. |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

Check the ink jet alignment as follows:






1. Remove the holster from the print head by pressing in the two holster retaining clips and withdrawing the holster.
2. Fit the print head into a wash station, or place a beaker underneath the print head.
3. With the ink jet running, check the position that the ink jet enters the gutter as shown in the following diagrams.



| # | Explanation |
|---|--|
| 1 | Front view: Ink jet $\frac{1}{3}$ from left side of the gutter wall. |
| 2 | Side view: Ink jet in centre of gutter. |

4. If the alignment is incorrect, an engineer certified by Domino can re-align the ink jet.
5. Replace the print head holster.

i-Pulse External Cleaning (IP65 Cover)

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|--|---|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Water Hazard. Risk of Print Head Damage. | |
|  | <p>Close the print head cover's print aperture, before cleaning the print head cover with a water jet.</p> <p>If the aperture is not closed, water may enter the print head and damage it.</p> |
| CAUTION Water Hazard. Risk of Print Head Damage. | |
|  | <p>To clean the print head, do not use a water jet that is more powerful than 30 kPa (4.4 psi), closer than a distance of 3 meters (9.38 ft).</p> <p>The print head cover is designed to protect the print head against a water jet pressure of 30 kPa (4.4 psi) at a distance of 3 meters (9.38 ft). A more powerful water jet may damage the print head.</p> |
| CAUTION Water Hazard. Risk of Print Head Damage. | |
|  | <p>Do not clean the print head with a water jet, if the print head does NOT have an IP65 print head cover installed.</p> <p>If the print head does not have an IP65 cover installed and it is cleaned with a water jet, water may enter the print head and damage it.</p> |

- Notes
1. The IP65 print head cover is only available for standard single jet i-Pulse print heads.
 2. IP65 ingress protection is only valid when the cover's print aperture is in the closed position.

The IP65 print head cover is designed to protect the print head from moisture in harsh installation environments.

If the print head has an IP65 print head cover installed, the print head cover can be cleaned with a water jet.

MAINTENANCE & TROUBLESHOOTING




Close the print head cover's print aperture, before cleaning the print head cover with a water jet.



I-PULSE2 PRINT HEAD MAINTENANCE



i-Pulse2 Print Head Cleaning

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|--|---|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. | |
|  | <p>Switch off the printer before starting this procedure.</p> <p>If the printer is running when this procedure is done, wash fluid may be sucked into the ink system through the gutter. This may cause the viscosity of the ink to become too thin.</p> |

Check and clean the i-Pulse2 print head at least once a week, to ensure reliable operation.


Cleaning intervals may vary, depending on the ink type and installation environment.

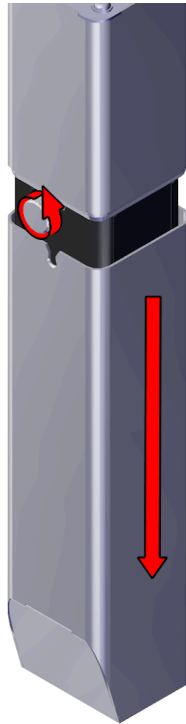
Do not let dirt and ink collect on the deflector plates, charge electrode slot or gutter tube. A build up of ink and dirt in these areas may reduce print quality.

Required tools and equipment: T6 torx driver, lint free tissue, and wash.

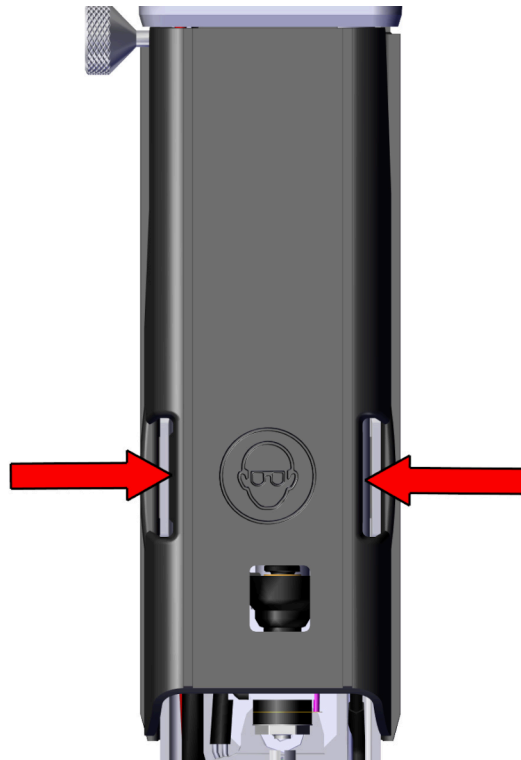
Note The correct wash type is listed on the printer's internal configuration label.

To clean the i-Pulse2 print head:

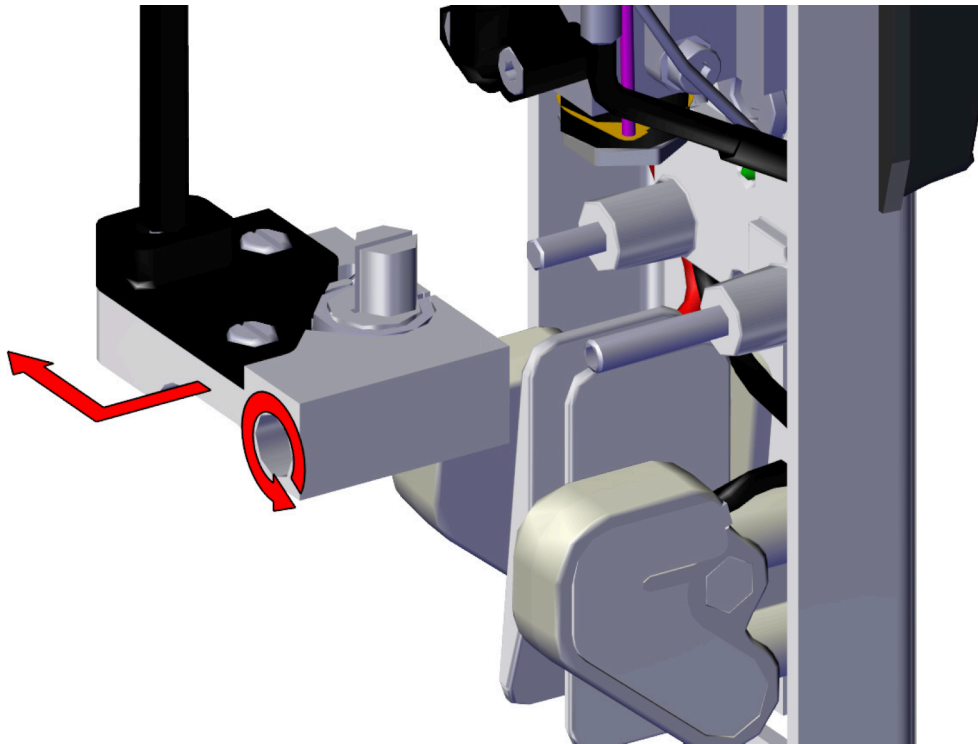
1. If the printer is on, press and hold the  button for 2 seconds and wait for the printer to shut down.
2. Disconnect the power lead from the rear of the printer.
3. Loosen the locking screw on the side of the print head and slide the cover off.



4. Squeeze the clips on the internal cover and remove the cover.



5. Loosen the screw that secures the charge electrode with a T6 driver. Then, carefully move the charge electrode out and to the side of the print head.



6. Spray wash at the nozzle, to clean the external face of the drop generator jewel.

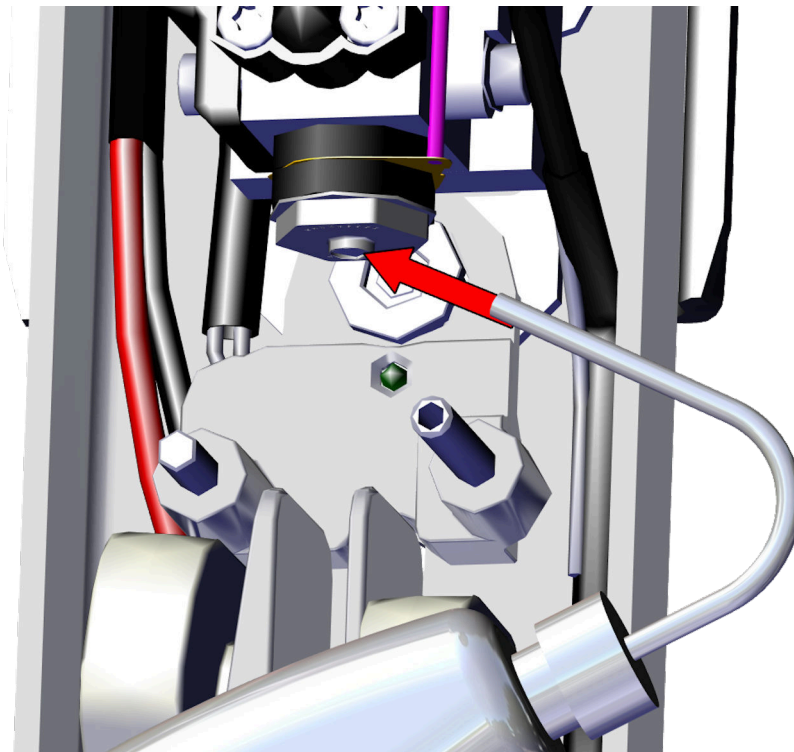
CAUTION

Contamination Hazard. Risk of Printer Damage.



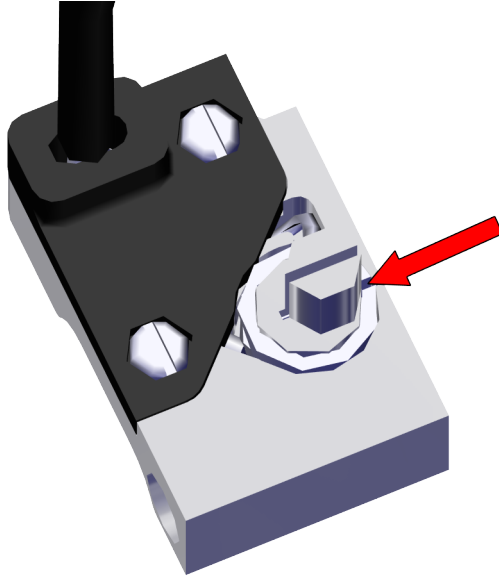
Do not physically touch the nozzle.

Touching the nozzle may contaminate and block it.



7. Clean all sides of the charge electrode with wash.

8. Clean the charge electrode slot with wash.

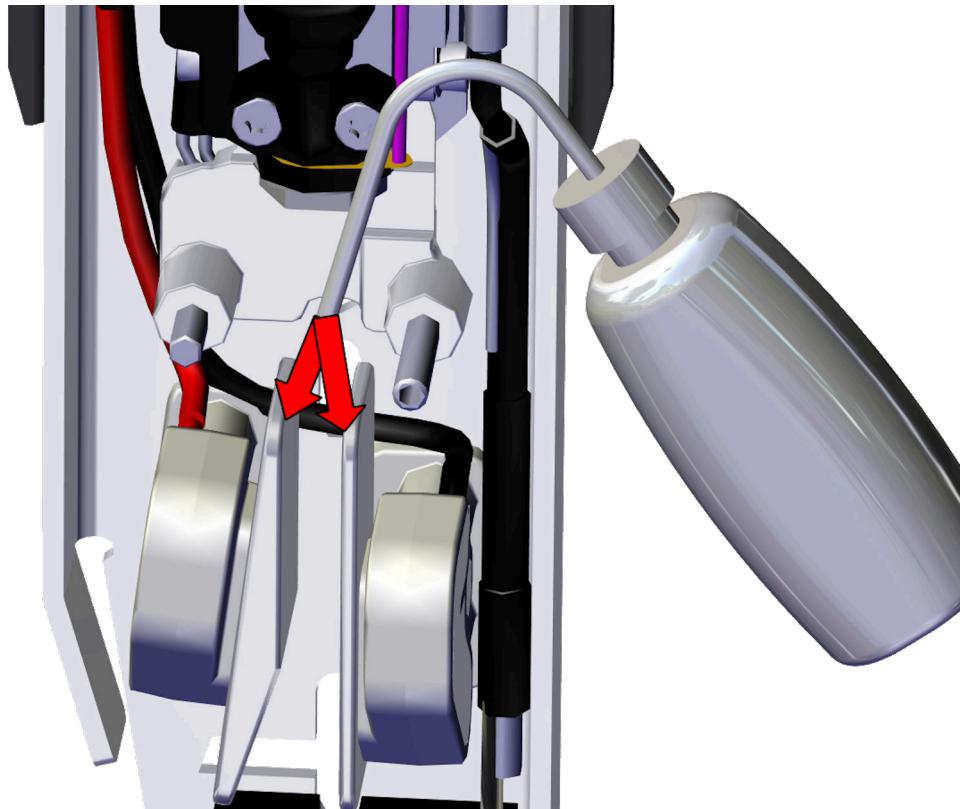


9. Use a clean, lint free tissue to dry the charge electrode slot.

| | |
|------|--|
| Note | No fluid should be left in the charge electrode slot before the printer is sequenced on. |
|------|--|

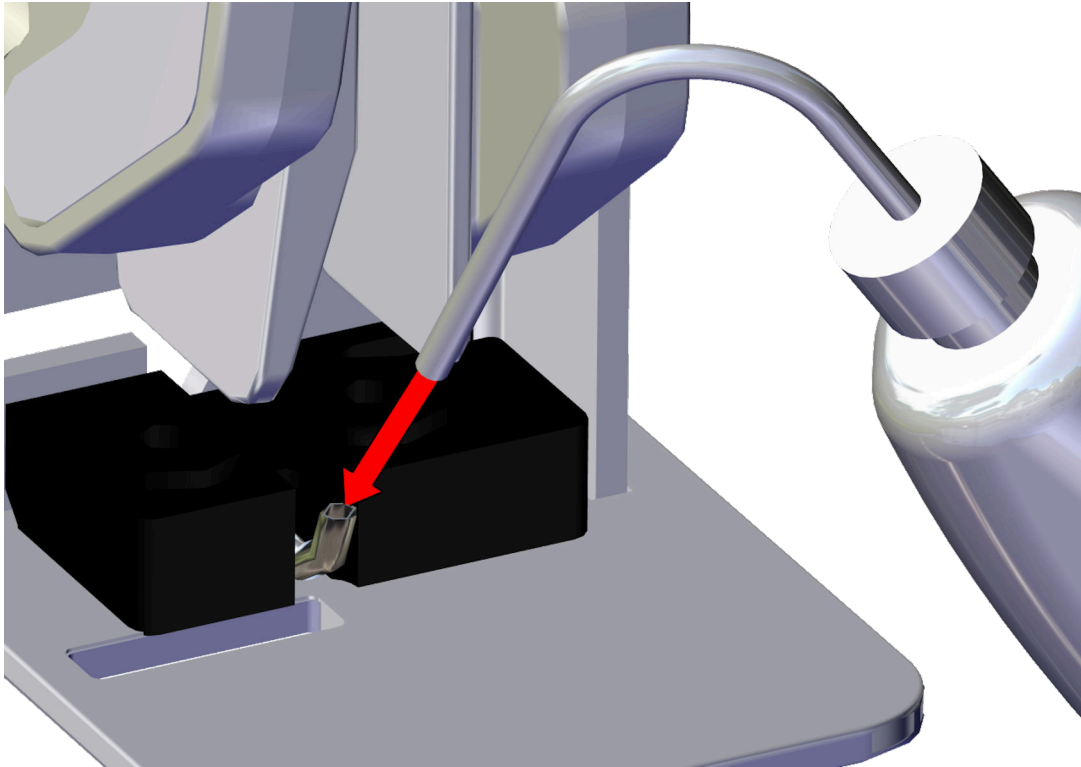
10. Clean the deflector plates with wash.

| | |
|------|---|
| Note | Make sure, the tops of the plates (just under the charge electrode) are properly cleaned as well. |
|------|---|

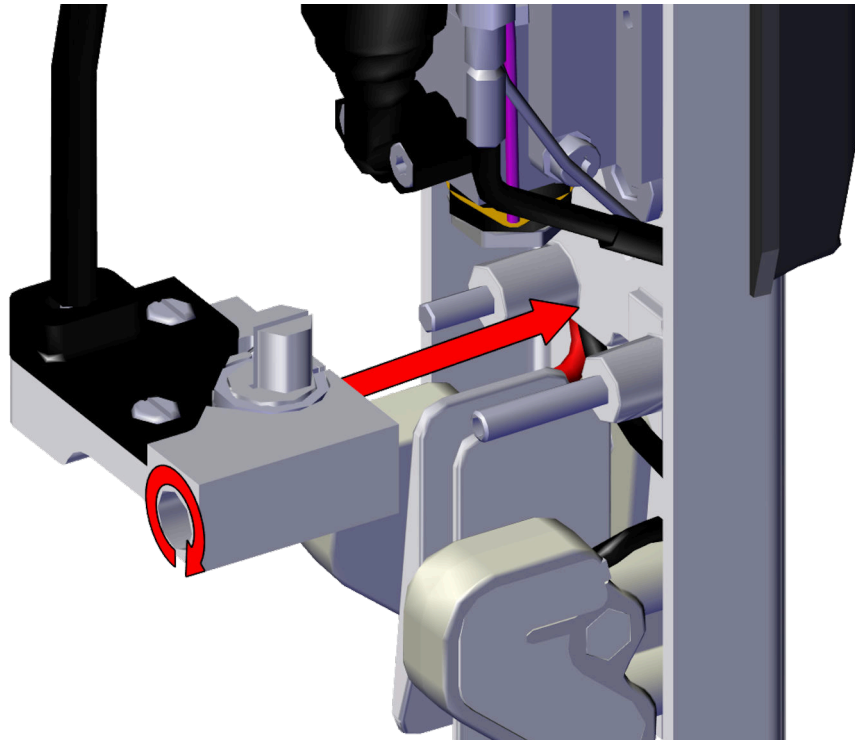


11. Clean the gutter tube with wash.

Note If there are any deposits of dried ink on the edge of the gutter tube, make sure these are cleaned off.






12. Refit the charge electrode and tighten the screw.




13. Refit the print head covers.

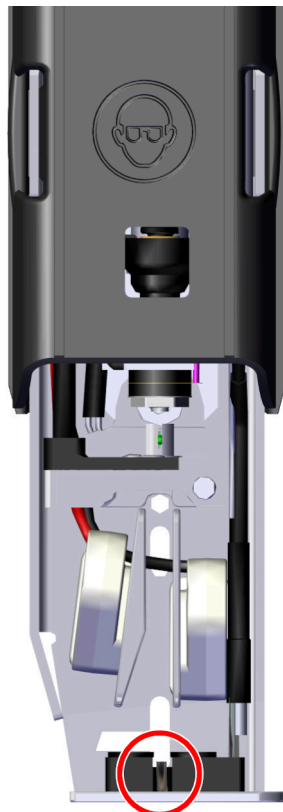
i-Pulse2 Gutter Cleaning

| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

To clean the gutter:

1. Ensure the printer is on and in the Idle state.
2. Remove the print head cover by loosening the locking screw on the side of the print head and sliding the cover off.
3. Squirt a small amount of solvent into the gutter pipe.

| CAUTION Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. | |
|--|--|
|  | <p>Do not squirt large amounts of wash into the gutter.</p> <p>If a large amount of wash is squirted into the gutter, the viscosity of the ink may become too thin.</p> |



4. Replace the print head cover and tighten the locking screw.

i-Pulse2 Ink Jet Alignment Check

WARNING

Hazardous Chemicals. Risk of eye and skin damage.



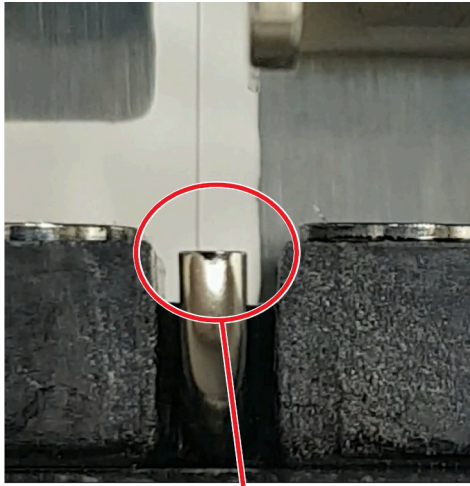
Wear protective equipment such as gloves and glasses when near the printer.

Contact with chemicals can cause skin or eye damage.

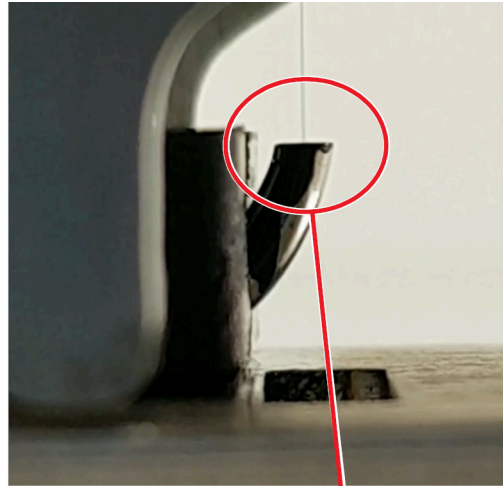
Refer to Safety Data Sheet.

Check the ink jet alignment as follows:

1. Remove the print head cover by loosening the locking screw on the side of the print head and sliding the cover off.
2. Fit the print head into a wash station, or place a beaker underneath the print head.
3. With the ink jet running, check the position that the ink jet enters the gutter as shown in the following diagrams.



1



2




| # | Explanation |
|---|--|
| 1 | Front view: Ink jet $\frac{1}{3}$ from left side of the gutter wall. |
| 2 | Side view: Ink jet in centre of gutter. |

4. If the alignment is incorrect, an engineer certified by Domino can re-align the ink jet.
5. Replace the print head cover and tighten the locking screw.

I-PULSE DUO PRINT HEAD MAINTENANCE




i-Pulse Duo Print Head Cleaning

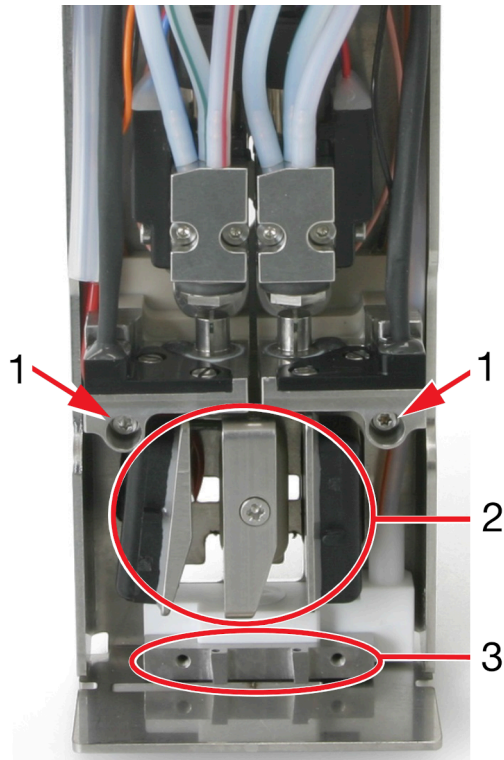
| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|--|---|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. | |
|  | <p>Switch off the printer before starting this procedure.</p> <p>If the printer is running when this procedure is done, wash fluid may be sucked into the ink system through the gutter. This may cause the viscosity of the ink to become too thin.</p> |

Required tools and equipment: T6 torx driver, lint free tissue, and wash.

Note The correct wash type is listed on the printer's internal configuration label.

Clean the print head as follows:




1. If the printer is on, press and hold the  button for 2 seconds and wait for the printer to shut down.
2. Disconnect the power lead from the rear of the printer.
3. At the print head, remove the cover by unscrewing the locking screw on the rear of the print head and sliding the cover off.
4. Follow the annotated instructions in the following illustration.




| # | Explanation |
|---|---|
| 1 | <ul style="list-style-type: none"> Loosen screw and remove the charge electrode Clean in the slot with the correct wash type Dry using lint free tissue. |
| 2 | Clean any ink residue from deflector plates. |
| 3 | Clean any ink residue from gutter area. |


- Replace the 2 charge electrodes.
- Replace the print head cover and tighten the locking screw.

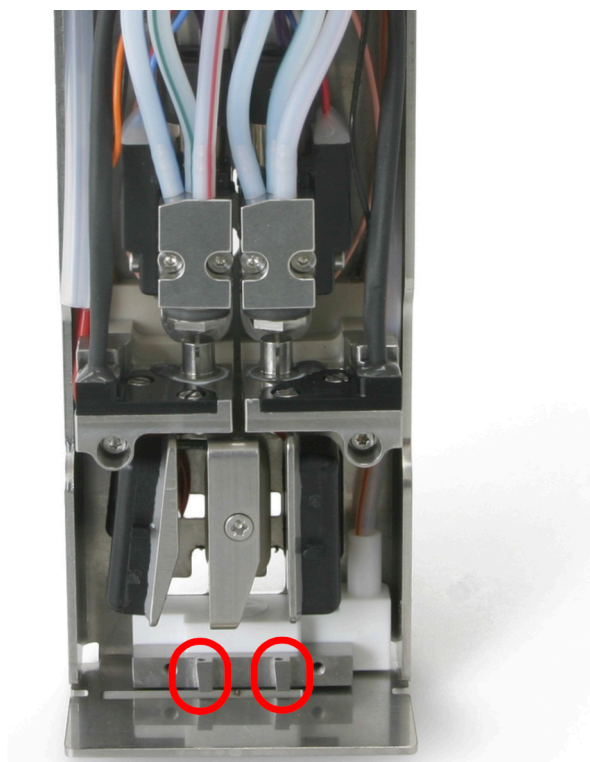
i-Pulse Duo Gutter Cleaning


| WARNING | Hazardous Chemicals. Risk of eye and skin damage. |
|---|--|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage.</p> <p>Refer to Safety Data Sheet.</p> |

To clean the gutter:




1. Ensure the printer is on and in the Idle state.
2. Unscrew the locking screw on the rear of the print head and slide the print head cover off.
3. On the TouchPanel, select *Home > Setup > Advanced > Gutter*.
4. Tick the *Gutter pump at maximum speed* tick box.
5. Select the  icon on the Information Bar.
6. Swipe the screen from right to left to navigate to the *Live status* screen.
7. Observe the *Vacuum pressure (mbar)* value.
8. If the *Vacuum pressure (mbar)* value is greater than -180 it is likely that both gutter pipes are partially blocked with dried ink. To check each individual gutter pipe put on a latex or nitrile glove. Use a gloved finger to block each gutter pipe in turn to see if the *Vacuum pressure (mbar)* value changes.
9. If one or both gutter pipes are blocked with dried ink, squirt a small amount of solvent into the blocked gutter pipe and wait for the *Gutter pump speed (rpm)* value to stabilise.

| CAUTION | Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. |
|---|--|
|  | <p>Do not squirt large amounts of wash into the gutter.</p> <p>If a large amount of wash is squirted into the gutter, the viscosity of the ink may become too thin.</p> |



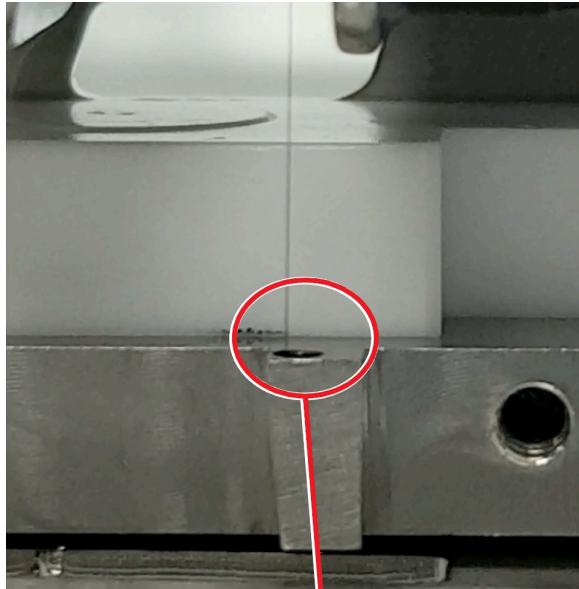
10. If the *Vacuum pressure (mbar)* value is now lower than -180 continue to the next step. If the *Vacuum pressure (mbar)* value is still greater than -180, squirt a small amount of solvent into the blocked gutter pipe and wait for the *Gutter pump speed (rpm)* value to stabilise.
11. Select the  icon at the bottom of the screen.
12. Select *Home > Setup > Advanced > Gutter*.
13. Untick the *Gutter pump at maximum speed* tick box.
14. Replace the print head cover and tighten the locking screw.

i-Pulse Duo Ink Jet Alignment Check

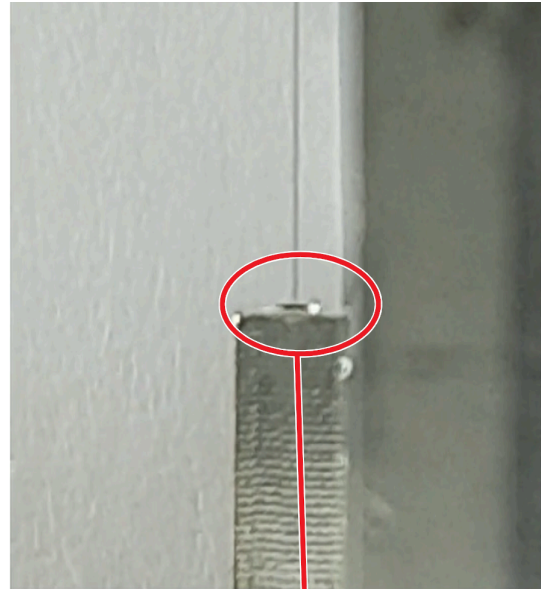
| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

Check the ink jet alignment as follows:

1. Remove the print head cover by unscrewing the locking screw on the rear of the print head and sliding the cover off.
2. Fit the print head into a wash station, or place a beaker underneath the print head.
3. With both ink jets running, check the position that each ink jet enters the gutter as shown in the following diagrams.



1



2




| # | Explanation |
|---|--|
| 1 | Front view: Ink jet ¼ from left side of the gutter wall. |
| 2 | Side view: Ink jet in centre of gutter. |

4. If the alignment is incorrect, an engineer certified by Domino can re-align the ink jet.
5. Replace the print head cover and tighten the locking screw.

I-PULSE RS PRINT HEAD MAINTENANCE



i-Pulse RS Print Head Cleaning


| WARNING Hazardous Chemicals. Risk of eye and skin damage. | |
|---|---|
|   | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |
| CAUTION Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. | |
|  | <p>Switch off the printer before starting this procedure.</p> <p>If the printer is running when this procedure is done, wash fluid may be sucked into the ink system through the gutter. This may cause the viscosity of the ink to become too thin.</p> |

The i-Pulse RS print head requires regular cleaning when using heavily pigmented ink. Check the print head before every shift and clean as necessary.

Required equipment: Lint free tissue, and wash.

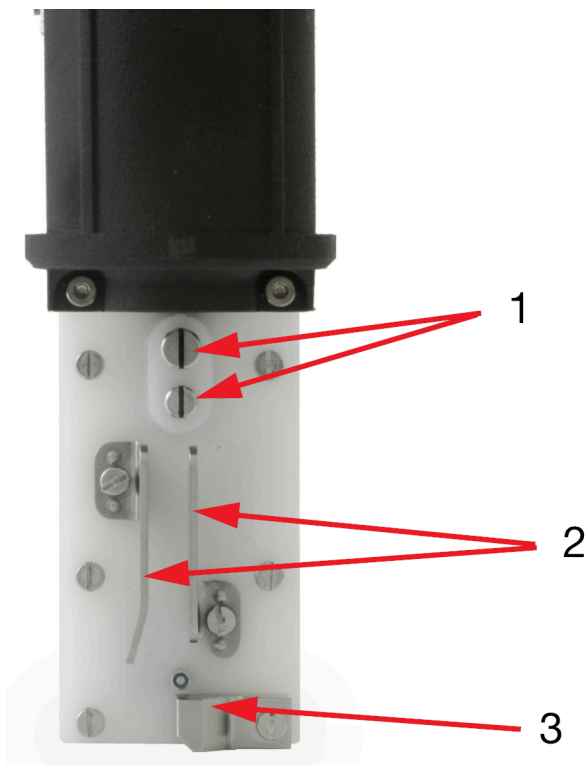
Note The correct wash type is listed on the printer's internal configuration label.

To clean the i-Pulse RS print head:

1. If the printer is on, press and hold the  button for 2 seconds and wait for the printer to shut down.
2. Twist and remove the print head cover.



3. Follow the annotated instructions in the following illustration.






| # | Explanation |
|---|---|
| 1 | <ul style="list-style-type: none">• Clean in the slots with the correct wash type• Dry using lint free tissue• When cleaned, use a magnifying glass to ensure both slots are lint free. |
| 2 | Clean any ink residue from deflector plates. |

MAINTENANCE & TROUBLESHOOTING

| # | Explanation |
|---|---|
| 3 | Clean any ink residue from gutter area. |

4. Replace the print head cover.
5. Dispose of waste solvent by following local waste disposal regulations.


i-Pulse RS Gutter Cleaning


| WARNING | Hazardous Chemicals. Risk of eye and skin damage. |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

To clean the gutter:


1. Ensure the printer is on and in the Idle state.
2. Twist and remove the print head cover.






3. On the TouchPanel, select *Home > Setup > Advanced > Gutter*.
4. Tick the *Gutter pump at maximum speed* tick box.
5. Select the  icon on the Information Bar.
6. Swipe the screen from right to left to navigate to the *Live status* screen.
7. Observe the *Vacuum pressure (mbar)* value.
8. If the *Vacuum pressure (mbar)* value is greater than -180 it is likely that the gutter pipe is partially blocked with dried ink. Squirt a small amount of solvent into the gutter pipe and wait for the Vacuum pressure (mbar) value to stabilise.

| CAUTION | Ink Viscosity Hazard. Risk of Going Out of Printer Operating Limits. |
|---|--|
|  | <p>Do not squirt large amounts of wash into the gutter.</p> <p>If a large amount of wash is squirted into the gutter, the viscosity of the ink may become too thin.</p> |



9. If the *Vacuum pressure (mbar)* value is now lower than -180 continue to the next step. If the *Vacuum pressure (mbar)* value is still greater than -180 repeat step (8).
10. Select the  icon at the bottom of the screen.
11. Select *Home > Setup > Advanced > Gutter*.
12. Untick the *Gutter pump at maximum speed* tick box.
13. Replace the print head cover.

i-Pulse RS Ink Jet Alignment Check

| WARNING | Hazardous Chemicals. Risk of eye and skin damage. |
|---|---|
|    | <p>Wear protective equipment such as gloves and glasses when near the printer.</p> <p>Contact with chemicals can cause skin or eye damage. Refer to Safety Data Sheet.</p> |

Check the ink jet alignment as follows:

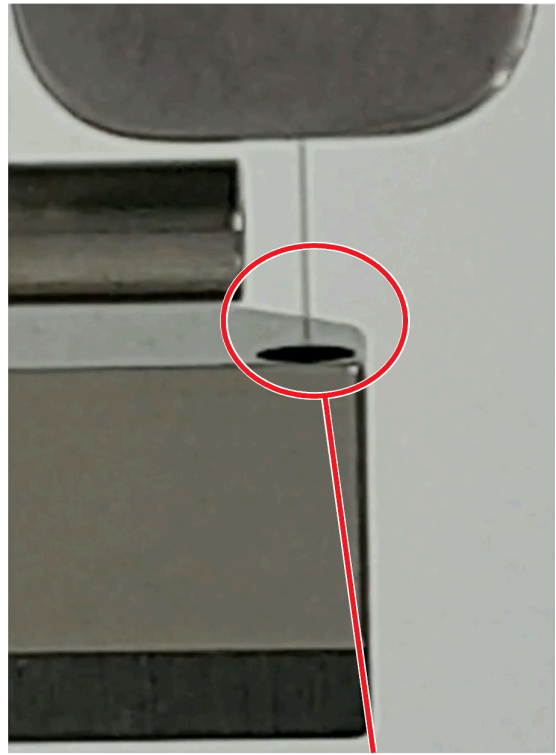
1. Twist and remove the print head cover.



2. Fit the print head into a wash station, or place a beaker underneath the print head.
3. With the ink jet running, check the position that the ink jet enters the gutter as shown in the following diagrams.



1




2

| # | Explanation |
|---|--|
| 1 | Front view: Ink jet nearly touching left side of gutter wall.. |
| 2 | Side view: Ink jet in centre of gutter. |

4. If the alignment is incorrect, an engineer certified by Domino can re-align the ink jet.
5. Replace the print head cover.

SOFTWARE

Upgrade with USB Flash Drive

| | |
|---|--|
| CAUTION | Software Corruption Hazard. Risk of Printer Damage. |
|  | <p>Disconnect all printer cables, connections, ancillaries, Domino Cloud Interface (DCI), beacon, alarm port, shaft encoder and sensors etc.</p> <p>Disconnecting all connections ensures that no communication or electrical signals can be received during the upgrade process. Failure to remove all connections before the upgrade process starts may corrupt the printer's software.</p> |

- Notes
1. Non-standard files which have been uploaded manually onto the printer may be lost during a software upgrade. For example, trial inks or development rasters. If these files are not available in the printer after the upgrade, contact the Domino Technical Support Group (TSG) and check if the files are compatible with the new software revision. Re-install the files manually after the upgrade is complete.
 2. The "Print Delay" setting will not persist during a software upgrade. Manually reset the "Print Delay" setting after the upgrade is complete.
 3. Do not directly upgrade the printer to a software revision that is more than 2 releases ahead of the printers current software revision.

To upgrade the printer's software:

1. Copy the upgrade file to the root folder of a USB flash drive.
2. Disconnect all printer cables, connections, ancillaries, Domino Cloud Interface (DCI), beacon, alarm port, shaft encoder and sensors etc. This ensures no communication or electrical signals can be received during the upgrade process. Failure to remove all connections before the upgrade process starts may corrupt the printer's software.
3. Power on the printer and wait for it to fully boot-up into the Idle state.

Note Do not sequence the ink jet on and do not insert any USB device during the boot-up/start-up sequence.

4. Insert the USB flash drive into a USB port on the printer cabinet or TouchScreen.

Note For Ax130i, the USB port is located inside the front door.

5. Wait for the *Available upgrades* pop up screen to appear and select Yes.
6. Select the upgrade file.
7. The TouchScreen will now display a summary of the release notes for the upgrade file. Select the *Arrow* icon to continue the upgrade.
8. Select when the upgrade should take place, either:

Now (will restart printer automatically).

The next time the printer is restarted.

9. Select the *Arrow* icon.

10. Select *Upgrade now*.
11. The printer will now begin the upgrade process which will take between 11 and 22 minutes to complete.
12. If the upgrade fails a “Rollback” button is available to rollback the software to a previous version. You can then try the upgrade process again.

PART 6 PACKS

PERFORMANCE PACK OVERVIEW




Performance packs are additional packs which can be installed when the printer is manufactured or installed at a later date to upgrade the printer's functionality.

Note Performance packs are not available for Ax130i. The Ax130i has a Peltier condenser installed as standard.

The table below lists the performance pack options:

| Pack Name and Part Number | Printer Availability | Description |
|--|----------------------|---|
| Extended Raster Pack - EPT030749SP | Ax150i | The extended raster pack adds an extended range of rasters to the printer. The new rasters cover a broad range of general purpose applications. |
| Professional Printing Pack - EPT030750SP | Ax350i Ax550i | The professional printing pack adds advanced features for complex labels, high speed applications and high quality 2D coding. |
| Advanced Security Pack - EPT035038SP | Ax350i Ax550i | The advanced security pack adds security features to the printer. |
| Operator Assistance Pack - EPT030751SP | Ax350i Ax550i | The operator assistance pack adds security features and a barcode scanner for data entry. These features minimise the risk of operator error on the production line. |
| Green Pack - EPT030753SP | Ax350i Ax550i | The Green Pack adds a Peltier condenser to reduce make-up consumption by up to 20%. Power consumption is also lowered with the addition of configurable energy save modes. |
| Continuous Printing Pack - EPT035039SP | Ax350i Ax550i | The continuous printing pack adds features for printing long labels on high speed continuous print surfaces such as cable, wire and extrusion applications. (See Continuous Printing Pack Product Manual available at: https://mydomino.domino-printing.com) |

Installation and Migration


| WARNING | Electricity. Risk of Injury. |
|---|--|
|   | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the Green Pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the Green Pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the Green Pack.</p> <p>Untrained personnel that attempt to install the Green Pack may cause printer damage.</p> |

The installation procedure for most performance packs is simple and can be completed by the user. The procedure to migrate performance packs from one printer to another is also simple easy to complete by the user.

However, to prevent damage to the printer or injury to personnel, only a trained engineer certified by Domino is permitted to install the Green Pack. The procedures bellow describe installation and migration of all performance packs except the Green Pack.



Installation

To install a performance pack:

1. Insert the performance pack USB into a USB port on the printer cabinet or TouchScreen.
2. On the TouchScreen select, *Home > Setup > Packs management*.
3. Select the *Install* button.
4. Follow the on screen instructions.
5. Remove the performance pack USB.
6. Press and hold the  button for 2 seconds and restart the printer.

Migration

To remove a performance pack from the current printer and install it on a different printer:

1. Insert the correct performance pack USB into a USB port on the printer cabinet or TouchScreen.
2. On the TouchScreen select, *Home > Setup > Packs management > Migrate Packs*.
3. Select the *Migrate* button.
4. Follow the on screen instructions.
5. Remove the performance pack USB.
6. Press and hold the  button for 2 seconds and restart the printer.
7. Insert the performance pack USB into a USB port on the printer cabinet or TouchScreen that the pack is being migrated to.
8. On the TouchScreen select, *Home > Setup > Packs management*.
9. Select the *Install* button.
10. Follow the on screen instructions.
11. Remove the performance pack USB.
12. Press and hold the  button for 2 seconds and restart the printer.

PERFORMANCE PACK DETAILS

Extended Raster Pack

- Notes
1. Available for Ax150i printers only.
 2. Depending on your region, from April 2021 this pack may be installed on Ax150i printers as standard.

Software requirements: Version 01.00.20 or higher.

The extended raster pack is a performance pack that adds extra rasters to cover a broad range of general purpose applications.

The new rasters will be available when creating or editing label designs.



Professional Printing Pack

- Notes
1. Available for Ax350i/Ax550i printers only.
 2. Depending on your region, from April 2021 this pack may be installed on Ax350i and Ax550i printers as standard.

Software requirements: Version 01.00.20 or higher.

The professional printing pack is a performance pack that adds advanced features for complex labels, high speed applications and high quality 2D coding:

- High speed (ST and HQ) rasters
- Segmented labels
- Lua script engine.



Segmented Labels

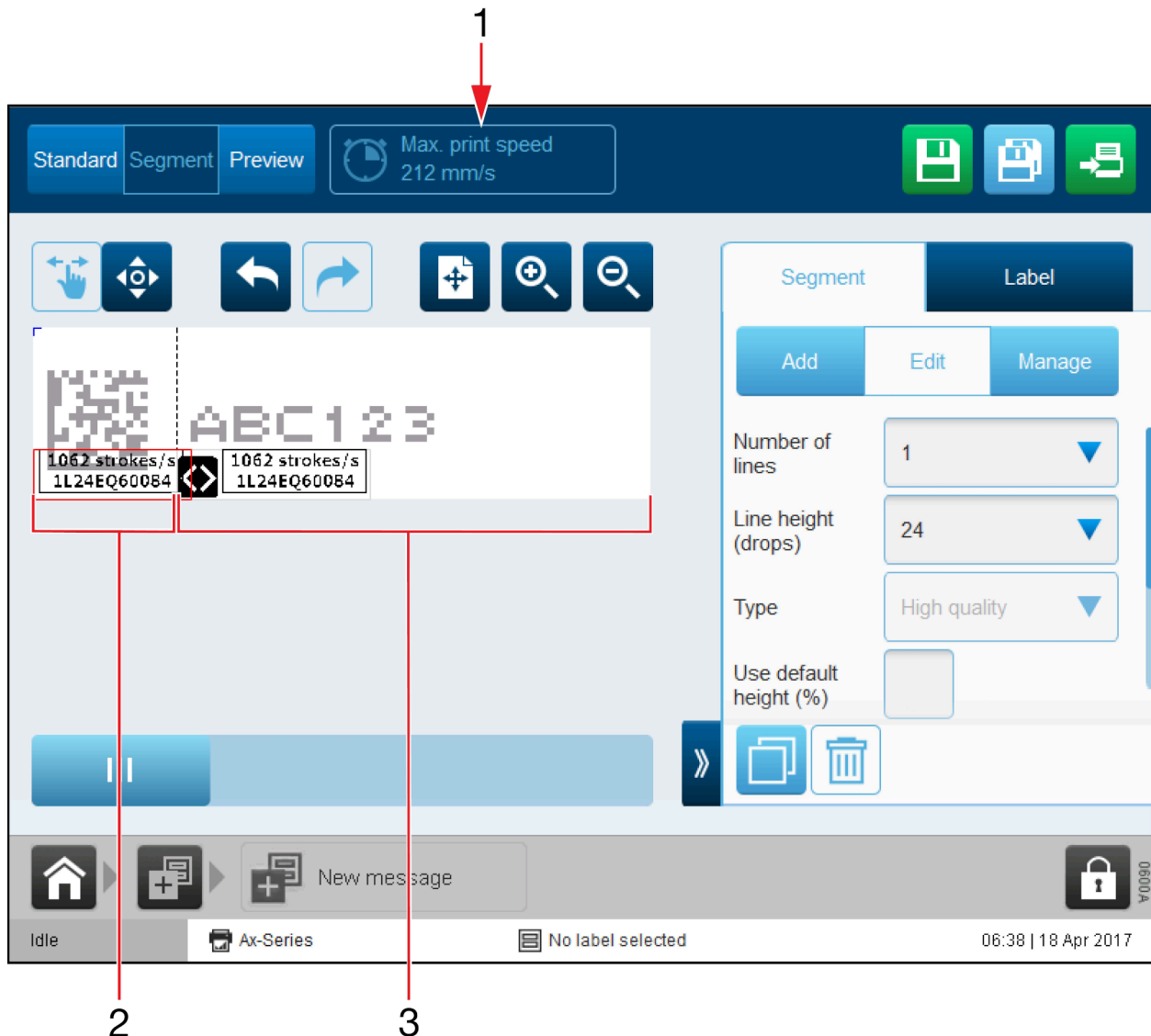
Label segmentation enables multiple rasters, print heights and stroke pitches to be used within a single label. This enables the user to optimise print quality when both text and 2D barcode elements are used in the same label.

Segmented Label Example

The illustration below shows an example of a label design with a barcode element and a text element in two different segments.

Segment 1 contains a data matrix barcode that requires a high density print to ensure it can be properly scanned. To achieve this the *Height (%)* and *Stroke pitch (mm/stroke)* settings for this segment have been adjusted to move the ink drops closer together.

Segment 2 contains a text element that does not require a high density print. The *Height (%)* and *Stroke pitch (mm/stroke)* settings for segment 2 have been left at the default values to reduce ink consumption and optimise the label print speed.



| # | Explanation |
|---|------------------|
| 1 | Max. print speed |

PACKS

| # | Explanation |
|---|-------------|
| 2 | Segment 1 |
| 3 | Segment 2 |

Add a Segment

To add a segment into a label design:

1. In the *Label Creator*, select *Segment* at the top of the screen.
2. In the side menu, select the *Segment* tab.
3. Select the *Add* menu.
4. Select the *Add Segment* icon.



5. The following segment settings can now be defined:

| Setting Name | Explanation |
|--------------------------|--|
| Number of lines | Select the required number of lines. |
| Line height (drops) | Select the required line height in ink drops. |
| Type | Select the required segment quality. |
| Overall height (mm) | Select the height of the label segment. |
| Use default height (%) | Tick the tick box to use the default print height setting. Untick the tick box to display the <i>Height (%)</i> setting. |
| Height (%) | Note This setting is only valid if the <i>Use default height (%)</i> tick box is not ticked. Set the print height percentage. |
| Use default stroke pitch | Tick the tick box to use the default stroke pitch setting. Untick the tick box to display the stroke pitch (mm/stroke) setting. |
| Stroke pitch (mm/stroke) | Note This setting is only valid if the <i>Use default stroke pitch</i> tick box is not ticked. Set the distance between print strokes. A stroke is the line of ink drops which is used to make up each printed character. |

LUA Script

Import LUA Script Files

Script elements written in LUA programming language can be imported into the printer using the file manager. Once imported, the script element can then be added into the label design, see [Add a Script Element on page 195](#).

To import a script:

1. Save the script file to a USB drive.
2. Insert the USB drive into a USB slot on the TouchScreen or printer cabinet.
3. On the TouchScreen, select *Home > Setup > File manager*.
4. Open the USB folder.
5. Copy the script file and navigate to the *Scripts* folder.
6. Select *Paste*.

Behavioural Configuration

The settings on the behavioural configuration screen define the loop time of each specific script.

To set the loop time of a specific script:

1. Select *Home > Setup > Global print settings > Behavioural configuration*.
2. Select *Add new script*.
3. Configure the following settings:

| Setting Name | Description |
|----------------|--|
| Script path | Enter the location of the script file. |
| Instance name | Enter the name of the script file. |
| Loop time (ms) | Define the loop time. |

Reset Script Variables

To reset scripts:

1. Select *Home > Setup > Global Print Settings > Content*.
2. Select *Reset All* to reset persistent script variables.

Operator Assistance Pack

Note Available for Ax350i/Ax550i printers only.

Hardware requirements: An available USB Type A port on the printer cabinet or TouchScreen.

The operator assistance pack is a performance pack that adds the following features to minimise the risk of operator error on the production line:

- Simple security manager
- Barcode scanning for label selection and data entry
- Label templates for consistent code appearance.

The simple security manager contains four user groups as described in the table below. If further security features are required, the advanced security pack is available, see [Advanced Security Pack on page 301](#).

| User Group | Explanation |
|-----------------|---|
| Admin | Access to all printer settings and functions. |
| Supervisor | Access to the following printer functions: <ul style="list-style-type: none"> • Label creator • Edit labels • Print optimisation • Change printer state • Label select • Acknowledge alerts • Prompted data entry via UI keyboard. |
| Operator | Access to the following printer functions: <ul style="list-style-type: none"> • Print optimisation • Change printer state • Label select • Acknowledge alerts • Prompted data entry via UI keyboard. |
| Barcode Scanner | Access to the following printer functions: <ul style="list-style-type: none"> • Print optimisation • Change printer state • Acknowledge alerts • Label select via barcode scanner • Prompted data entry via barcode scanner. |

Security Manager

Enable Simple Security Mode

When the simple security mode is enabled, only users with a valid password will be able to operate the printer through the user interface.

| | |
|------|--|
| Note | When the security mode is enabled, you will be immediately logged out of the printer. Before enabling simple security mode, ensure you have a valid password to log into the printer, see Log In on page 303 . |
|------|--|

To enable simple security mode:

1. Select *Home > Setup > Security*.
2. Select the *Security mode* drop down setting.
3. Select *Simple*.

Disable Security Mode

To disable security mode:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security*.
3. Select the *Security mode* drop down setting.
4. Select *Off*.

Log In (Simple)

To log in:

1. Select the *Padlock* icon in the bottom right corner of the user interface.
2. Select *Log in*.
3. Enter the password for the required user group. The default password for each user group is defined in the table below:

Note Passwords are case sensitive.

| User Group | Password |
|----------------|----------|
| admin | admin |
| supervisor | sv |
| operator | op |
| barcodescanner | scanner |

Log Out

To log out:

1. Select the *Lock/Padlock* icon in the bottom right corner of the user interface.
2. Select *Log out*.

Enable Auto Log-in

To enable auto log-in:

1. Log into the controller as an admin level user.
2. Select *Home > Setup > Security*.
3. Tick the *Enable auto log-in* tick box.
4. Select the *Auto login user* drop down setting.
5. Select the user that will automatically be logged in when the controller is turned on.

Disable Auto Log-in

To disable auto log-in:

1. Log into the controller as an admin level user.
2. Select *Home > Setup > Security*.
3. Untick the *Enable auto log-in* tick box.

Change Current User Group Password

To change the current user group's password:

1. Select the *Padlock* icon in the bottom right corner of the user interface.
2. Select *Change password*.
3. Enter the following information:

| Setting Name | Explanation |
|------------------|-----------------------------|
| Current password | Enter the current password. |
| New password | Enter the new password. |
| Retype password | Retype the new password. |

4. Select *Save*.

Reset Forgotten Password

If a user group password is forgotten, an admin level user can reset the password.

If the admin level password is forgotten, contact your local Domino support office.

To reset a forgotten user group password:

1. Log in as an admin level user, see [Log In \(Simple\) on page 297](#).
2. Select *Home > Setup > Security > Users*.
3. Select the user profile that requires a new password.
4. Select *Change password*.
5. Enter the following information:

| Setting Name | Explanation |
|-----------------|--------------------------|
| New password | Enter the new password. |
| Retype password | Retype the new password. |

6. Select *Save*.

Change User Group Settings

Note Simple Security Mode.

To change a user group's settings:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Groups*.
3. Select the user group that requires changing.
4. The functions and settings that the user group has access to can now be changed and customised.
5. Select *Save*.

Barcode Scanner

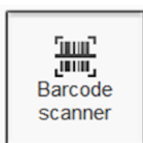
Note Simple Security Mode.

The Operator Assistance Pack contains a barcode scanner and scanner user profile. When logged into the barcode scanner user profile, the user can select what label is sent to print by scanning a barcode containing the correct label name. If the label contains a prompted field, the user will be prompted to enter data which can also be scanned from a barcode.

Label Selection and Data Entry via Barcode Scanner

To select a label and enter prompted data using the barcode scanner:

1. Log into the barcode scanner user group.
2. Select the *Barcode scanner* icon on the UI home screen.



3. Use the barcode scanner to scan a barcode that contains the label name.
4. Select *Send to print*.
5. If the label design contains a prompted element, the user will be prompted to scan another barcode that contains the required data.

Advanced Security Pack

Note Available for Ax350i/Ax550i printers only.

Hardware requirements: An available USB Type A port on the printer cabinet or TouchScreen.

The advanced security pack is a performance pack that adds the advanced and simple security mode to the printer's user interface.

Security Manager

Enable Simple Security Mode

When the simple security mode is enabled, only users with a valid password will be able to operate the printer through the user interface.

Note When the security mode is enabled, you will be immediately logged out of the printer. Before enabling simple security mode, ensure you have a valid password to log into the printer, see [Log In on page 303](#).

To enable simple security mode:

1. Select *Home* > *Setup* > *Security*.
2. Select the *Security mode* drop down setting.
3. Select *Simple*.

Enable Advanced Security Mode

When advanced security mode is active, only users with a valid user name and password will be able to operate the printer through the user interface. Users who are part of the admin group will also have the capability to set password policy, create new user and group profiles and edit user and group profiles.

| | |
|------|---|
| Note | When the security mode is enabled, you will be immediately logged out of the printer. Before enabling advanced security mode, ensure you have a valid password to log into the printer, see Log In (Simple) on page 297 . |
|------|---|

To enable advanced security mode:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security*.
3. Select the *Security mode* drop down setting.
4. Select *Advanced*.

Disable Security Mode

To disable security mode:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security*.
3. Select the *Security mode* drop down setting.
4. Select *Off*.

Log In

To log in:

1. Select the *Padlock* icon in the bottom right corner of the user interface.
2. Select *Log in*.
3. Enter the password for the required user group. The default password for each user group is defined in the table below:

Note Passwords are case sensitive.

| User Group | Password | Explanation |
|------------|----------|---|
| admin | admin | Access to all printer settings and functions. |
| supervisor | sv | Access to the following printer functions: <ul style="list-style-type: none"> • Start/Stop printing • Label finder • Label creator • Edit current label • Print optimisation • Printer status • Label select • Prompted data entry via UI keyboard • Acknowledge alerts. |
| operator | op | Access to the following printer functions: <ul style="list-style-type: none"> • Start/Stop printing • Print optimisation • Printer status • Label select • Prompted data entry via UI keyboard • Acknowledge alerts. |

Log Out

To log out:

1. Select the *Lock/Padlock* icon in the bottom right corner of the user interface.
2. Select *Log out*.

Enable Auto Log-in

To enable auto log-in:

1. Log into the controller as an admin level user.
2. Select *Home > Setup > Security*.
3. Tick the *Enable auto log-in* tick box.
4. Select the *Auto login user* drop down setting.
5. Select the user that will automatically be logged in when the controller is turned on.

Disable Auto Log-in

To disable auto log-in:

1. Log into the controller as an admin level user.
2. Select *Home > Setup > Security*.
3. Untick the *Enable auto log-in* tick box.

Change Current User Group Password

To change the current user group's password:

1. Select the *Padlock* icon in the bottom right corner of the user interface.
2. Select *Change password*.
3. Enter the following information:

| Setting Name | Explanation |
|------------------|-----------------------------|
| Current password | Enter the current password. |
| New password | Enter the new password. |
| Retype password | Retype the new password. |

4. Select *Save*.

Reset Forgotten Password

If a user group password is forgotten, an admin level user can reset the password.

If the admin level password is forgotten, contact your local Domino support office.

To reset a forgotten user group password:

1. Log in as an admin level user, see [Log In \(Simple\) on page 297](#).
2. Select *Home > Setup > Security > Users*.
3. Select the user profile that requires a new password.
4. Select *Change password*.
5. Enter the following information:

| Setting Name | Explanation |
|-----------------|--------------------------|
| New password | Enter the new password. |
| Retype password | Retype the new password. |

6. Select *Save*.

Set Password Policy

Note This procedure is possible in Advanced Security mode only.

To set the password policy for advanced security mode:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Password policy*.
3. The settings described below can now be defined:

| Setting Name | Explanation |
|--|---|
| Password expiry warning (days) | Define the number of days before the password expiry warning is displayed. |
| Minimum number of unrepeated passwords | Define the minimum number of different passwords a user must have before the same password can be reused. |
| Minimum length | Define the minimum password length. |
| Min upper case | Define the minimum number of upper case characters that must be used. |
| Min lower case | Define the minimum number of lower case characters that must be used. |
| Min numeric | Define the minimum number of numeric characters that must be used. |
| Min special | Define the minimum number of defined special characters that must be used. |
| Max repeated | Define the maximum number of times characters can be repeated. |
| Max ID characters | Define the maximum number of consecutive characters that can be used for a user name. |
| Special characters | Define which special characters can be used for passwords. |

Add New User

Note This procedure is possible in Advanced Security mode only.

To add a new user:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Users*.
3. Select the *Add new user* icon.
4. The settings described in the table below can now be changed:

| Setting Name | Explanation |
|------------------------------|--|
| User name | Define the name of the user. |
| Password | Enter the user's password. |
| Retype password | Retype the user's password. |
| Groups | Select which user groups the user belongs to. |
| Status | Select the user's status: <ul style="list-style-type: none"> • Active • Dormant • Locked. |
| Must change password | When a new user is added, this tick box will be selected. It is not possible to de-select this tick box until the new user has logged on and changed their password. |
| Forename | Enter the user's first name (optional). |
| Surname | Enter the user's last name (optional). |
| Department | Enter the user's department (optional). |
| Inactivity timeout (minutes) | Define the number of minutes the printer will be inactive for before the user is logged out. |
| Account expiry enabled | Select the tick box to enable the account expiry date. |
| Account expiry date | Enter the date the user account will expire on if the <i>Account expiry</i> date is enabled. |
| Password expiry (days) | Enter the number of days the current password can be used before it expires. |

5. Select *Save*.

Change User Settings

Note This procedure is possible in Advanced Security mode only.

To change a user's settings:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Users*.
3. Select the user that requires changing.
4. To change the user's password, select *Change password* at the bottom of the screen.
5. The settings described in the table below can also be changed:

| Setting Name | Explanation |
|------------------------------|---|
| User name | Displays the user name, this name cannot be changed. |
| Groups | Select which user groups the user belongs to. |
| Status | Select the user's status: <ul style="list-style-type: none"> • Active • Dormant • Locked |
| Must change password | Select the tick box to force a new user to change their password the first time they log in. |
| Forename | Enter the user's first name (optional). |
| Surname | Enter the user's last name (optional). |
| Department | Enter the user's department (optional). |
| Inactivity timeout (minutes) | Define the number of minutes the printer will be inactive for before the user is logged out. |
| Account expiry enabled | Select the tick box to enable the account expiry date. |
| Account expiry date | Enter the date the user account will expire on if the <i>Account expiry</i> date is enabled. |
| Password expiry (days) | Enter the number of days the current password can be used before it expires. |

6. Select *Save*.

Delete User

Note This procedure is possible in Advanced Security mode only.

To delete or change a user:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Users*.
3. Select the red bin icon next to the user to be deleted.

Add New User Group

Note This procedure is possible in Advanced Security mode only.

To add a new user group:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Groups*.
3. Select the *Add new group* icon.
4. Select the *Group name* entry box and enter a name for the user group.
5. Select *Save*.
6. Select which printer functions and settings members of the user group will be allowed access to.
7. Select *Save*.

Delete User Group

Note This procedure is possible in Advanced Security mode only.

To delete a user group:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Groups*.
3. Select the user group to be deleted.
4. Select *Delete Group*.

Change User Group Settings



Note This procedure is possible in Advanced Security mode only.

Each user group can be customised to allow or block the user group's access to specific printer settings.

To change the printer settings a user group has access to:

1. Log into the printer as an admin level user.
2. Select *Home > Setup > Security > Groups*.
3. Select the user group that requires changing.
4. A list of printer settings and UI screens will now be displayed. Change the value of each drop down box to define the settings members of the user group are allowed or not allowed to access.
5. Select *Save*.

Green Pack

| WARNING | Electricity. Risk of Injury. |
|---|--|
|  | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the Green Pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the Green Pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the Green Pack.</p> <p>Untrained personnel that attempt to install the Green Pack may cause printer damage.</p> |

Note Available for Ax350i and Ax550i printers only.

Hardware requirements: Revision 5 main PCB or higher.

Software requirements: Version 01.00.20 or higher.

The Green Pack is a performance pack that reduces make-up usage by up to 20% with the addition of a Peltier condenser. Power consumption is also lowered with the addition of configurable energy save modes:

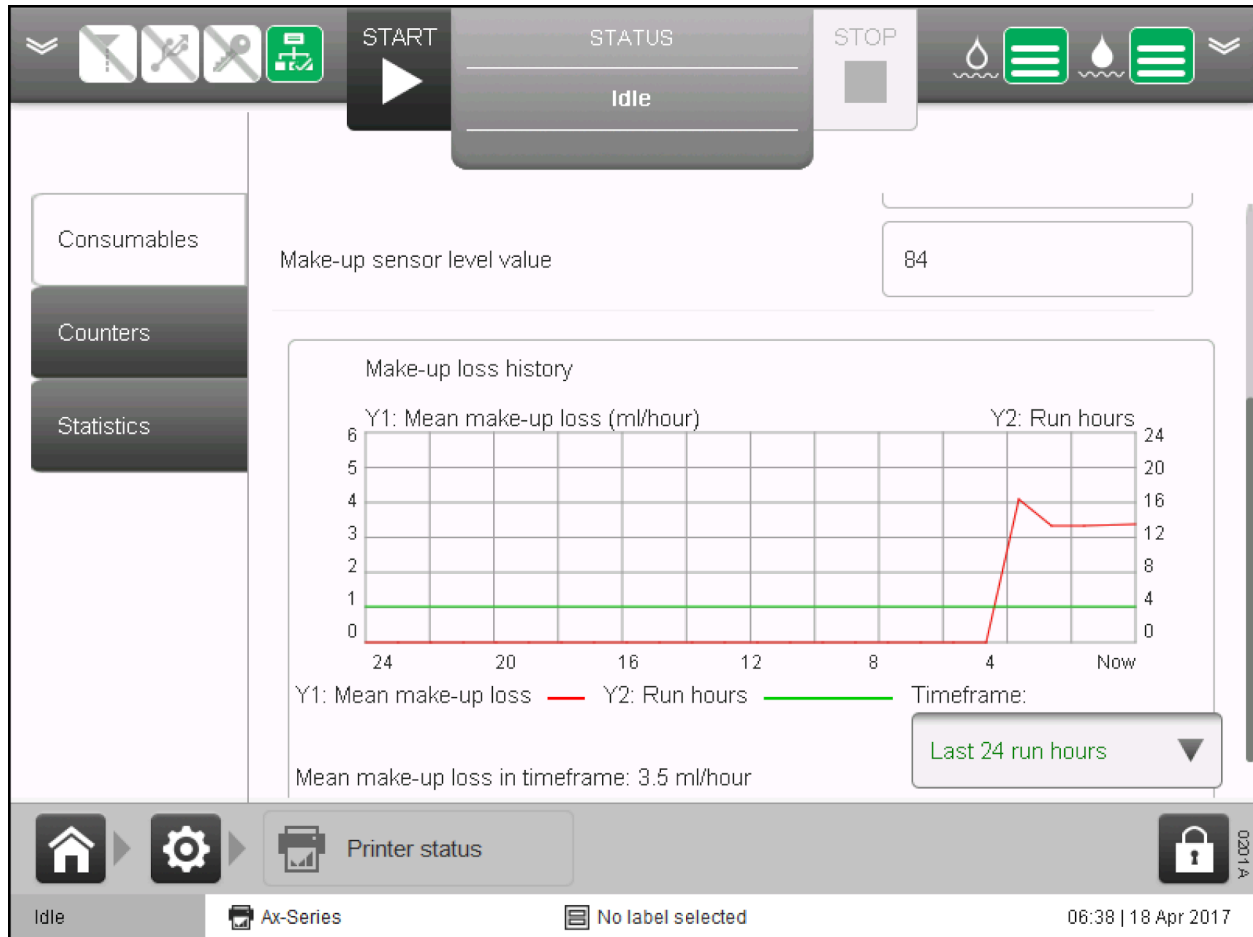
- Peltier condenser to capture fluid evaporation in the printer cabinet
- Print head and ink system energy save mode (configurable)
- Graphs to display make-up and ink usage on the user interface.



Make-up Loss Graph

The make-up loss graph displays how many millilitres per hour of make-up has been consumed by the printer.

To view the make-up loss graph, select *Home > Setup > Printer status > Consumables*.



Energy Save Options

The printer has several energy saving features which can be enabled, disabled and customised on the *Power options* screen.

Energy Save

Note This feature is not available for Ax130i.

To enable or disable the printer's energy saving features:

1. Select *Home > Setup > Production line setup > Power options*.
2. Tick the *Energy save enabled* tick box.
3. The energy save features described below can now be customised.

Auto Jet Off

Note This feature is not available for Ax130i.

If enabled, the ink jet will sequence off when a specified amount of time has passed after the last print trigger signal is received.

The settings described in table below are used to setup the auto jet off feature.

| Setting Name | Explanation |
|--------------------------|--|
| Auto jet off enabled | Enable or disable auto jet off. |
| Auto jet off time (mins) | Define the amount of time from the last print trigger signal received to when the ink jet will sequence off. |

Auto Sleep

- Notes
1. Auto sleep should not be enabled or used when “Wake-up mode” (see [Wake-up Mode on page 100](#)) is required. The wake-up cycle will not run when the printer is in the “Sleep” state.
 2. This feature is not available for Ax130i.

If enabled, the printer will enter sleep mode after a specified amount of time has passed since the last print trigger signal is received or since the ink jet is sequenced off. This depends on which *Action for auto sleep* option is selected.

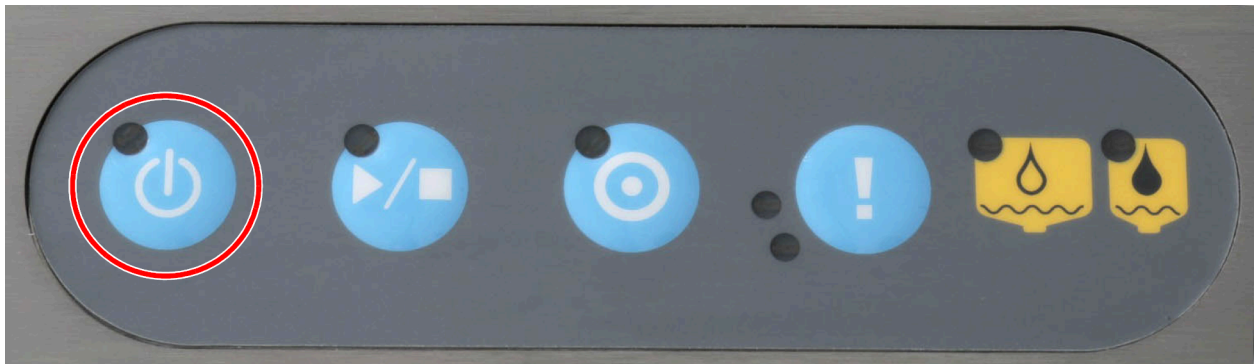
The settings described in the table below are used to setup the auto sleep feature.

| Setting Name | Explanation |
|------------------------|---|
| Auto sleep enabled | Enable or disable auto sleep. |
| Action for auto sleep | Define the action that triggers auto sleep: <ul style="list-style-type: none"> • <i>No print</i> - The printer will enter sleep mode after a specified amount of time has passed since the last print trigger signal is received • <i>Jet off</i> - The printer will enter sleep mode after a specified amount of time has passed since the ink jet was last sequenced off. |
| Auto sleep time (mins) | Define the amount of time from the last print trigger signal received, or from the time the ink jet was last sequenced off, to when the printer will enter sleep mode. |

Action for Power Button (Standby Button)

- Notes
1. Sleep should not be enabled or used when “Wake-up mode” (see [Wake-up Mode on page 100](#)) is required. The wake-up cycle will not run when the printer is in the “Sleep” state.
 2. The button is indicated with a “standby” symbol as described in IEC 60417-5009. This indicates that the button does not disconnect the printer from the electrical power supply.
 3. This feature is not available for Ax130i.

The *Action for power button* setting defines what action will occur when the standby button on the printer cabinet is pressed.



To change the standby button action:

1. Select *Home > Setup > Production line setup > Power options*.
2. Select the *Action for power button* drop down setting.
3. Select one of the options described below:

| Setting Name | Explanation |
|--------------|--|
| Sleep | The printer will enter sleep mode when the standby button is pressed. |
| Shut down | The printer will shut down when the standby button is pressed. |
| Prompt | The printer will ask the user if it should enter sleep mode or shut down when the standby button is pressed. |

CONNECTIVITY PACK OVERVIEW

Connectivity packs can be fitted to Ax-Series printers to equip them with additional external sockets. Connectivity packs can be fitted when the printer is manufactured, or fitted at a later date by an engineer certified by Domino as an upgrade.




Note Connectivity packs are not available for Ax130i, except for the status pack which is installed as standard.

The table below lists the connectivity pack options:

| Pack Name and Part Number | Printer Availability | Description |
|-----------------------------------|--------------------------------------|--|
| Status Pack - EPT022072SP | Ax130i Ax150i Ax350i Ax550i | The Status Pack adds the following external connections: <ul style="list-style-type: none"> Beacon connector: 5-Way Socket Alarm connector: 7-Way Socket, 1 A, 30 V maximum. |
| RS232 Pack - EPT022073SP | Ax150i Ax350i Ax550i | The RS232 Pack adds the following external connections: <ul style="list-style-type: none"> Serial RS232 Port: 8-Way Socket. |
| GPIO Pack - EPT022074SP | Ax150i Ax350i Ax550i | The GPIO pack adds the following external connections: <ul style="list-style-type: none"> GPIO Port: 14-way Socket. |
| Comms Pack - EPT022075SP | Ax150i Ax350i Ax550i | The Comms Pack adds the following external connections: <ul style="list-style-type: none"> Ethernet Port USB Port. |
| Extended Comms Pack - EPT022070SP | Ax350i Ax550i | The extended comms pack adds the following external connections: <ul style="list-style-type: none"> Powered HMI Port: 7-way Socket Control Port: 8-way Socket USB port. |
| Extended GPIO Pack - EPT022071SP | Ax350i Ax550i | The extended GPIO pack adds the following external connections: <ul style="list-style-type: none"> User Port: 25-Way D-Sub Socket User Port: 37-Way D-Sub Socket. |

CONNECTIVITY PACK DETAILS

Extended Comms Pack

| WARNING | Electricity. Risk of Injury. |
|---|---|
|   | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the this pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the this pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the this pack.</p> <p>Untrained personnel that attempt to install the this pack may cause printer damage.</p> |

Note Available for Ax350i/Ax550i printers only.

The extended comms pack is a connectivity pack that adds the following external connections to the printer cabinet:

- Powered HMI Port
- External Control Port
- USB Port.

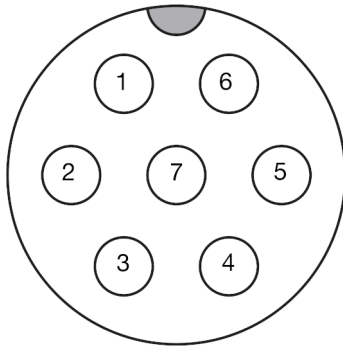
For powered HMI, external control and USB port locations, see [External Connections on page 76](#).

Powered HMI Port

The powered HMI port provides a 24 V power supply and communication for a Domino TouchPanel Type 1 or Type 2.

Socket type: 7 way DIN Socket IEC60130-9.


| Pin | Signal | Description |
|-------|--------|-------------------------------|
| 1 | +24 V | 24 V supply at 500 mA nominal |
| 2 | 0 V | Power GND |
| 3 | TX1+ | Transmit + |
| 4 | TX1- | Transmit - |
| 5 | RX1+ | Receive + |
| 6 | RX1- | Receive - |
| 7 | NC | Not Connected |
| Shell | NC | Ground via panel mounting |



Powered HMI Port
(external cabinet view)

External Control Port

The external control port enables external equipment to monitor the printer's on/off status and power the printer on/off.

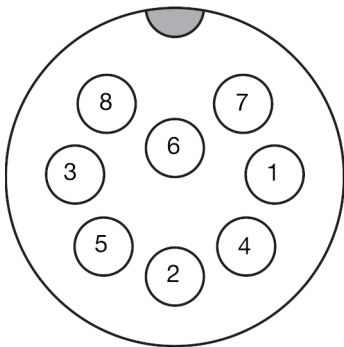
| CAUTION Electricity. Risk of Printer Damage. | |
|---|---|
|  | <p>Do not apply more than 5 V to the printer's external control port inputs.</p> <p>Input voltages above 5 V will damage the printer's main PCB.</p> |

If voltage free contacts are used to activate the inputs, pin 7 (5V+ OUT) can be used as the high voltage level.

The signals described below are 3v3 TTL compatible. Inputs are 5V TTL compatible.

Socket type: 8 way DIN Socket IEC60130-9.

| Pin | Signal | Description |
|-------|------------------|---|
| 1 | PWR_ON_IN | Remote Power On Input. A high pulse will turn the printer on. |
| 2 | PWR_OFF_IN | Remote Power Off Input. A high pulse will request that the printer is turned off. |
| 3 | PWR_STAT_OUT | Power Status Output. 0 V output when the printer is off. 3 V 3 output when the printer is on. |
| 4 | PRINT_EN_IN | This input is for future use. |
| 5 | PRINT_STATUS_OUT | This output is for future use. |
| 6 | CUSTOM_OUT | This output is for future use. |
| 7 | 5 V+ OUT | +5 V STANDBY (<100 mA). |
| 8 | 0 V | Signal Ground. |
| Shell | NC | Ground via panel mounting |






External Control Port
(external cabinet view)

USB Port

An external USB type A port which can be used to transfer files to and from the printer.

Status Pack

| WARNING | Electricity. Risk of Injury. |
|---|---|
|   | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the this pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the this pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the this pack.</p> <p>Untrained personnel that attempt to install the this pack may cause printer damage.</p> |

Note Depending on your region, from April 2021 this pack may be installed on Ax150i, Ax350i and Ax550i printers as standard.

The Status Pack is a connectivity pack that adds the following external connections:

- 5 way socket for a beacon
- 7 way socket for an alarm (Requires: L014981 - Cable X29 Interlock 9 m BCP7).

For beacon and alarm socket locations, see [External Connections on page 76](#).

Beacon Socket

The beacon socket provides an external 24V DC FET switched output to drive each of the lamps in a standard Domino beacon.

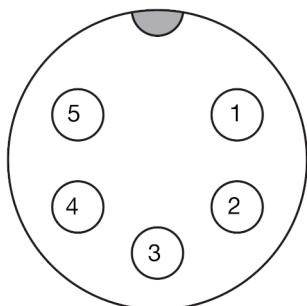
The beacon lamps illuminate in a solid state as described below:

| Setting Name | Explanation |
|--------------|---|
| Green | Printer is printing or ready to print. |
| Red | There is a fault, the printer has stopped, an alert is displayed on the user interface. |
| Amber | The printer requires attention, the printer is still printing, an alert is displayed on the user interface. |
| Blue | The printer is on but in an idle state. The printer is not ready for printing. |

Socket type: 5 way DIN Socket IEC60130-9.

The beacon socket pin assignments are shown below:

| Pin | Signal | Description |
|-------|--------|---------------------------------|
| 1 | Blue | Lamp driver 24 V FET - switched |
| 2 | Amber | Lamp driver 24 V FET - switched |
| 3 | Green | Lamp driver 24 V FET - switched |
| 4 | Red | Lamp driver 24 V FET - switched |
| 5 | 0 V | Ground |
| Shell | NC | Ground via panel mounting |



Beacon Socket
(external cabinet view)

Alarm Socket

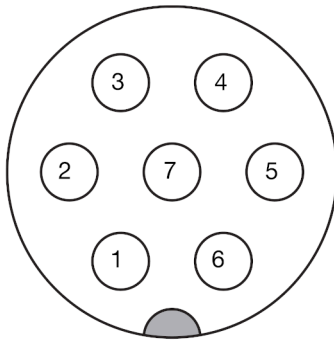
The alarm socket provides an output to trigger a customer supplied alarm.

Socket type: 7 way DIN Socket IEC60130-9.

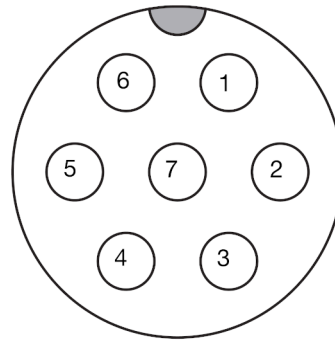
The alarm socket pin assignments are shown below:

| Pin | Signal | Description |
|-------|-----------|----------------------------|
| 1 | ALARM1_NC | Green (normally closed) |
| 2 | ALARM1_NO | Green (normally open) |
| 3 | ALARM2_NC | Red (normally closed) |
| 4 | ALARM2_NO | Red (normally open) |
| 5 | ALARM3_NC | Amber (normally closed) |
| 6 | ALARM3_NO | Amber (normally open) |
| 7 | COM | Externally supplied common |
| Shell | NC | Ground via panel mounting |

Note The alarm socket orientation is different for the Ax130i/Ax150i and Ax350i/Ax550i.





Alarm Socket Ax130i/
Ax150i
(external cabinet view)



Alarm Socket Ax350i/
Ax550i
(external cabinet view)

RS232 Pack

| WARNING | Electricity. Risk of Injury. |
|---|---|
|  | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the this pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the this pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the this pack.</p> <p>Untrained personnel that attempt to install the this pack may cause printer damage.</p> |

The RS232 Pack is a connectivity pack that adds an 8-Way RS232 plug to the printer cabinet. The RS232 plug can be used to send information to the printer, such as labels and variable information from an external control system. Information can also be sent to the external control system from the printer. Basic printer control can also be performed using the RS232 plug.

For the RS232 plug location, see [External Connections on page 76](#).

EDC Serial Protocol Setup

To setup and enable EDC serial protocol for the printer's RS232 port:

1. Select *Home > Setup > Printer network > Protocol settings*.
2. Select the *Protocol Setting* drop down setting and select *EDC Serial*.
3. Select the *Serial Com* drop down setting and select *COM1*.

Note COM2 is for the 37-way user port (if fitted).

4. Select *Advanced*.
5. The advanced serial settings can be set using the drop down boxes.
6. Select *Save*.
7. Define the *EDC serial* protocol settings.
8. Select the *Protocol enabled* tick box.

Codenet Protocol Setup (RS232)

To setup and enable codenet protocol for the printer's RS232 port:

1. Select *Home > Setup > Printer network > Protocol settings*.
2. Select the *Protocol Setting* drop down setting and select *Codenet*.
3. Select the *Serial Com* drop down setting and select *COM1*.

| | |
|------|---|
| Note | COM2 is for the 37-way user port (if fitted). |
|------|---|

4. Select *Advanced*.
5. The advanced serial settings can be set using the drop down boxes.
6. Select *Save*.
7. Define the codenet protocol settings.
8. Select the *Protocol enabled* tick box.

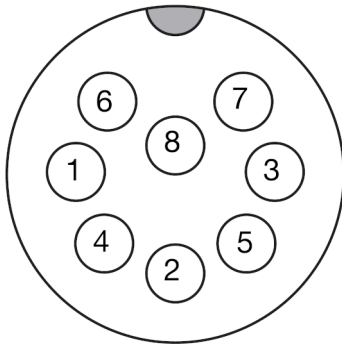
RS232 Plug

The RS232 plug provides external RS232 level serial connection to user equipment.

Plug type: 8 way DIN plug IEC60130-9.




The RS232 plug pin assignments are shown below.

| Pin | Signal | Description |
|-------|-----------|---------------------------|
| 1 | RS232_DCD | Data Carrier Detect |
| 2 | RS232_TXD | Transmit Data |
| 3 | RS232_RXD | Receive Data |
| 4 | RS232_DSR | Data Set Ready |
| 5 | 0 V | Signal GND |
| 6 | RS232_DTR | Data Terminal Ready |
| 7 | RS232_CTS | Clear To Send |
| 8 | RS232_RTS | Request To Send |
| Shell | NC | Ground via panel mounting |



RS232 Plug
(external cabinet view)

Comms Pack

| WARNING | Electricity. Risk of Injury. |
|---|---|
|   | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the this pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the this pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the this pack.</p> <p>Untrained personnel that attempt to install the this pack may cause printer damage.</p> |

Note Depending on your region, from April 2021 this pack may be installed on Ax150i, Ax350i and Ax550i printers as standard.

The comms pack is a connectivity pack that adds an external USB and Ethernet connection to the printer cabinet:

For USB and Ethernet port locations, see [External Connections on page 76](#).




Codenet Protocol Setup (Ethernet)

To setup and enable codenet protocol for the printer's Ethernet port:

1. Select *Home > Setup > Printer network > Protocol settings*.
2. Select the *Protocol Setting* drop down setting and select *Codenet*.
3. Select the *Protocol Mode* drop down setting and select *TCP*.
4. Define the codenet protocol settings.
5. Select the *Protocol enabled* tick box.

IO Packs

GPIO Pack

| WARNING | Electricity. Risk of Injury. |
|---|---|
|   | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the this pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the this pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the this pack.</p> <p>Untrained personnel that attempt to install the this pack may cause printer damage.</p> |

The GPIO Pack is a connectivity pack that adds a 14 way GPIO port to the printer cabinet. The GPIO port can be connected to customer supplied equipment to enable control of basic printer functions and output of printer acknowledgements. Additionally, up to 15 labels can be selected from the printer's internal memory and sent to print.

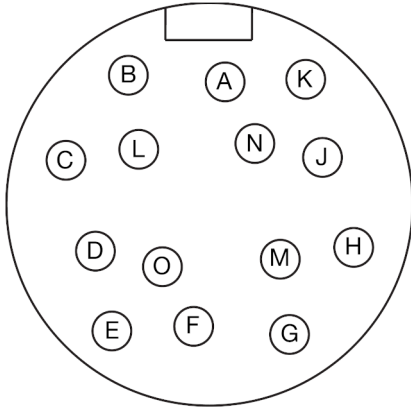
To setup the GPIO port functions, see [Assignment on page 337](#).

For the GPIO port location, see [External Connections on page 76](#).

GPIO Port

Socket type: Panel mount 14 way Lumberg.




Note See [Assignment on page 337](#) to assign configurable input and output pin functions.



GPIO Port
(external cabinet view)

| Pin | Signal | Description |
|-------|----------|---------------------------------------|
| A | 0 V | GROUND |
| B | INPUT 0+ | CONFIGURABLE INPUT |
| C | INPUT 0- | CONFIGURABLE INPUT |
| D | INPUT 1 | CONFIGURABLE INPUT |
| E | INPUT 2 | CONFIGURABLE INPUT |
| F | INPUT 3 | CONFIGURABLE INPUT |
| G | +24 V DC | 24 V DC EXTERNAL SUPPLY FOR INPUTS |
| H | 0V | COMMON EXTERNAL REFERENCE FOR INPUTS |
| J | OUTPUT 0 | CONFIGURABLE OUTPUT |
| K | OUTPUT 1 | CONFIGURABLE OUTPUT |
| L | OUTPUT 2 | CONFIGURABLE OUTPUT |
| M | OUTPUT 3 | CONFIGURABLE OUTPUT |
| N | +24 V DC | 24V DC EXTERNAL SUPPLY FOR OUTPUTS |
| O | 0V | COMMON EXTERNAL REFERENCE FOR OUTPUTS |
| Shell | NC | Ground via panel mounting |

Extended IO Pack

| WARNING | Electricity. Risk of Injury. |
|---|---|
|   | <p>Do not open the printer's electronics compartment.</p> <p>Only trained engineers, certified by Domino are allowed to install the this pack. High voltage electricity is present in the electronics compartment. Contact with high voltage electricity may cause injury.</p> |
| CAUTION | Untrained Person Hazard. Risk of Printer Damage. |
|  | <p>Do not install the this pack, if you are NOT trained and certified by Domino.</p> <p>Only trained engineers certified by Domino are allowed to install the this pack.</p> <p>Untrained personnel that attempt to install the this pack may cause printer damage.</p> |

Note Available for Ax350i/Ax550i printers only.

The extended IO pack is a connectivity pack that adds two user port sockets to the printer cabinet. The user ports can be connected to customer supplied equipment to enable control of basic printer functions and output of printer acknowledgements. Additionally, up to 255 labels can be selected from the printer's internal memory and sent to print.

To setup the user port functions, see [Assignment on page 337](#).

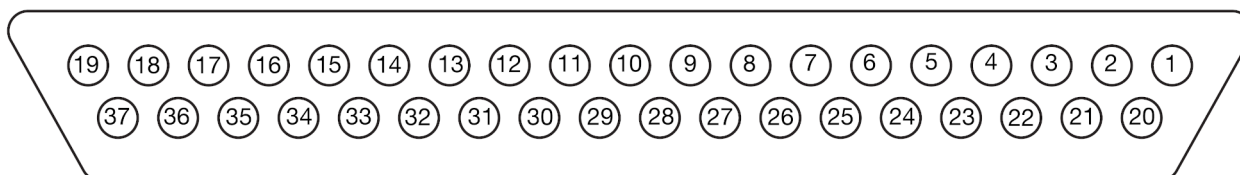
For user port locations, see [External Connections on page 76](#).

37 Way User Port

The 37 way user port provides the following external connections to user equipment:

- Configurable opto-isolated inputs
- Configurable opto-isolated outputs
- Isolated and non-isolated power and ground reference.

Socket type: Vertical PCB mount 37W D-Sub waterproof (IP67) socket.



37 Way User Port Socket Connections
(external cabinet view)

Note See [Assignment on page 337](#) to assign configurable input and output pin functions.

| Pin | Signal Name |
|-----|-----------------------|
| 1 | CONFIGURABLE INPUT |
| 2 | CONFIGURABLE INPUT |
| 3 | CONFIGURABLE INPUT |
| 4 | CONFIGURABLE INPUT |
| 5 | CONFIGURABLE INPUT |
| 6 | CONFIGURABLE INPUT |
| 7 | CONFIGURABLE INPUT |
| 8 | CONFIGURABLE INPUT |
| 9 | CONFIGURABLE INPUT |
| 10 | CONFIGURABLE INPUT |
| 11 | CONFIGURABLE INPUT |
| 12 | CONFIGURABLE INPUT |
| 13 | ISOLATED GROUND |
| 14 | CONFIGURABLE OUTPUT |
| 15 | CONFIGURABLE OUTPUT |
| 16 | CONFIGURABLE OUTPUT |
| 17 | CONFIGURABLE OUTPUT |
| 18 | OUTPUT COMMON |
| 19 | ISOLATED +24 V OUTPUT |
| 20 | ISOLATED +24 V OUTPUT |
| 21 | NOT USED |
| 22 | NOT USED |

PACKS

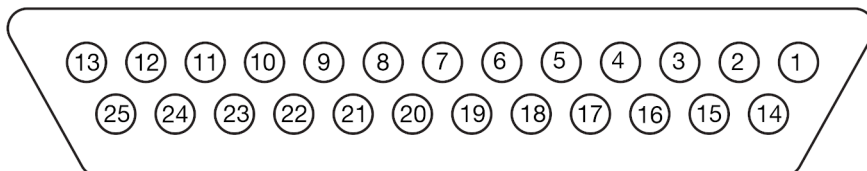
| Pin | Signal Name |
|-----|-------------------|
| 23 | ISOLATED GROUND |
| 24 | DIGITAL GROUND |
| 25 | SCREEN EMC GROUND |
| 26 | NOT USED |
| 27 | RS232 CTS INPUT |
| 28 | RS232 RTS OUTPUT |
| 29 | NOT USED |
| 30 | NOT USED |
| 31 | NOT USED |
| 32 | RS232 TX OUTPUT |
| 33 | RS232 RX INPUT |
| 34 | RS232 DTR OUTPUT |
| 35 | DIGITAL GROUND |
| 36 | RS232 DSR INPUT |
| 37 | NOT USED |

25 Way User Port

The 25 way user port provides the following external connections to user equipment:

- Configurable opto-isolated inputs
- Configurable opto-isolated or open collector outputs
- Isolated and non-isolated power and ground reference.

Socket type: Vertical PCB mount 25W D-Sub waterproof (IP67/8) socket.



25 Way User Port Socket Connections
(external cabinet view)

Note See [Assignment on page 337](#) to assign configurable input and output pin functions.

| Pin | Signal Name |
|-----|-----------------------|
| 1 | DIGITAL GROUND |
| 2 | CONFIGURABLE INPUT |
| 3 | CONFIGURABLE INPUT |
| 4 | CONFIGURABLE INPUT |
| 5 | CONFIGURABLE INPUT |
| 6 | CONFIGURABLE OUTPUT |
| 7 | CONFIGURABLE OUTPUT |
| 8 | CONFIGURABLE OUTPUT |
| 9 | NOT USED |
| 10 | NOT USED |
| 11 | NOT USED |
| 12 | NOT USED |
| 13 | ISOLATED GROUND |
| 14 | NOT USED |
| 15 | NOT USED |
| 16 | NOT USED |
| 17 | NOT USED |
| 18 | OUTPUT COMMON (OPTO) |
| 19 | ISOLATED +24 V OUTPUT |
| 20 | ISOLATED +24 V OUTPUT |
| 21 | NOT USED |
| 22 | NOT USED |

PACKS

| Pin | Signal Name |
|-----|-----------------|
| 23 | ISOLATED GROUND |
| 24 | DIGITAL GROUND |
| 25 | NOT USED |

Using IO Packs

The following pages in this chapter explain the printer settings that are available to setup and use the GPIO Pack and Extended IO Pack.

Set Up

To view and configure the settings available on the set up screen:

1. Select *Home > Setup > IO Port > Set up*.
2. The settings available on the Set up screen are described in the three tables below.

| Input Settings | |
|--|---|
| Setting | Explanation |
| GPI debounce time (us) | Define the input debounce time. |
| GPI queue depth | Define the maximum number of data packets allowed in the input queue. Range: 4 - 1023 |
| GPI queue empty alert | Tick the tick box to raise a printer alert when the GPI input queue is empty. |
| GPI queue first element received alert | Tick the box to raise a printer alert when the first data packet enters the GPI input queue. |
| GPI queue overflow alert | Tick the box to raise a printer alert when there are too many entries in the GPI input queue. |

| Other Settings | |
|---|--|
| Setting | Explanation |
| EDC history queue depth | External data packets sent to the printer can be saved in a history queue. The history queue allows the printer to check if duplicate data is received and to raise an alert if required. This setting defines the maximum number of data packets that can be saved in the history queue. Range: 0 - 2048 |
| EDC history queue maximum duplicates | Define the number of duplicate data packets allowed before a printer alert is triggered. For example, if this setting is set to ten, then ten duplicate data packets will be allowed before the alert is triggered. Range: 0 - 100 |
| EDC history queue full action | Define the printers action when the EDC history queue becomes full: <ul style="list-style-type: none"> • <i>Reset</i> - Clear the history queue and start again. • <i>Overwrite</i> - Overwrite the history queue. |
| EDC history queue preserve over power off | Tick the box to preserve the EDC history queue when the printer is powered off. If the box is not ticked, the EDC history queue will be deleted when the printer is powered off. |

| Other Settings | |
|---|---|
| Setting | Explanation |
| Label select: alert on empty slot selection | Tick the box to show an alert when a empty label slot is selected. See External Label Selection on page 343 . |
| Custom shift register: alert on invalid bit count | <p>Note The custom shift register is a data transfer feature used in special applications such as Tetrapak.</p> <p>Tick the box to show an amber alert when the number of bits read by the custom shift register since the last product detect is not a multiple of 16.</p> |

Assignment

Inputs

Assign a function to each input pin to ensure the correct function is triggered.

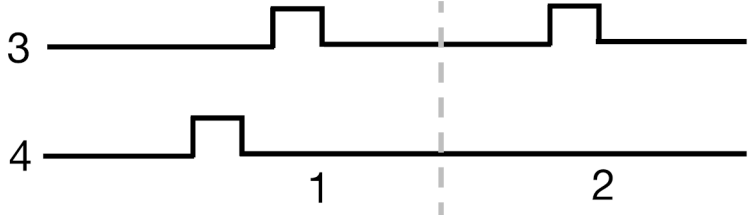
- | | |
|-------|---|
| Notes | <ol style="list-style-type: none"> 1. Inputs and Outputs that are labelled “B-Pin” are valid for the GPIO port J19 (if fitted), see GPIO Port on page 329. 2. The inputs and outputs that are labelled “Ext25” are valid for the 25 way user port J24 (if fitted), see 25 Way User Port on page 333. 3. The inputs and outputs that are labelled “Ext37” are valid for the 37 way user port J23 (if fitted), see 37 Way User Port on page 331. |
|-------|---|

To assign pins to specific input functions:

1. Select *Home > Setup > I/O Port > Assignment*.
2. Select the *Active level* drop down setting for each input pin and select if a High or Low signal will activate the input function.
3. Select the *Function* drop down setting for each pin and select a function as described in the table below.

| Setting | Explanation |
|----------------------------|---|
| Unassigned | The pin will not be assigned to any function. |
| Label selection | <p>The pin will be assigned to external label selection.</p> <p>When selecting <i>Label selection</i> for the first time, the alert “no message is selected for printing” will be displayed.</p> <p>Select only the minimum number of pins required for external label selection. See External Label Selection on page 343.</p> |
| Reset statistics counter 1 | <p>Reset <i>Resettable Counter 1</i> on the printer's <i>Statistics</i> menu.</p> <p><i>Resettable Counter 1</i> can be viewed on the printer's user interface by selecting <i>Home > Setup > Printer status > Statistics</i>.</p> |
| Reset statistics counter 2 | <p>Reset <i>Resettable Counter 2</i> on the printer's <i>Statistics</i> menu.</p> <p><i>Resettable Counter 2</i> can be viewed on the printer's user interface by selecting <i>Home > Setup > Printer status > Statistics</i>.</p> |
| Print inverted | Invert the current printing label. |
| Print reversed | Reverse the current printed label. |
| Global print inverted | Invert all labels that are sent to print until this input is triggered again. |
| Global print reversed | Reverse all labels that are sent to print until this input is triggered again. |
| Jet control | Sequence the ink jet on or off. |
| Reset all print counters | Reset all counter elements in the currently printing label. All counters will reset to the value that was specified when the counters were created. |
| Reset print counter 1 | Reset counter element 1 in the currently printing label. The counter will reset to the value that was specified when the counter was created. |

| Setting | Explanation |
|------------------------|--|
| Reset print counter 2 | Reset counter element 2 in the currently printing label. The counter will reset to the value that was specified when the counter was created. |
| Reset print counter 3 | Reset counter element 3 in the currently printing label. The counter will reset to the value that was specified when the counter was created. |
| Reset print counter 4 | Reset counter element 4 in the currently printing label. The counter will reset to the value that was specified when the counter was created. |
| Update print counter 1 | Update counter element 1 in the currently printing label. The counter will be updated by the step size that was specified when the counter was created. |
| Update print counter 2 | Update counter element 2 in the currently printing label. The counter will be updated by the step size that was specified when the counter was created. |
| Update print counter 3 | Update counter element 3 in the currently printing label. The counter will be updated by the step size that was specified when the counter was created. |
| Update print counter 4 | Update counter element 4 in the currently printing label. The counter will be updated by the step size that was specified when the counter was created. |
| Reverse counter 1 | <p>Note This setting was added in software version 01.40.0629. Labels created in earlier software versions will need to be re-saved in the new software version to use this feature.</p> <p>Change the counting direction of counter element 1 in the currently printing label.</p> |
| Reverse counter 2 | <p>Note This setting was added in software version 01.40.0629. Labels created in earlier software versions will need to be re-saved in the new software version to use this feature.</p> <p>Change the counting direction of counter element 2 in the currently printing label.</p> |
| Reverse counter 3 | <p>Note This setting was added in software version 01.40.0629. Labels created in earlier software versions will need to be re-saved in the new software version to use this feature.</p> <p>Change the counting direction of counter element 3 in the currently printing label.</p> |
| Reverse counter 4 | <p>Note This setting was added in software version 01.40.0629. Labels created in earlier software versions will need to be re-saved in the new software version to use this feature.</p> <p>Change the counting direction of counter element 4 in the currently printing label.</p> |
| Print abort | <p>Note Do not trigger the print abort input more than once in succession, during printing of the same single label. This can cause unexpected printer behavior.</p> <p>The printer will stop printing the label at the end of the current print stroke. The next label will be printed when the next print trigger is received.</p> |

| Setting | Explanation |
|----------------|--|
| Suppress print | <p>This input will stop the next print. Dynamic data such as counter elements will continue to increment/decrement during print suppress.</p> <p>This input is useful for traversing applications when using a bidirectional counter. This input can also be used to suppress printing onto a damaged product without losing the traverser lane identification.</p> <p>To use print suppress, the input must switch to the active level and back to the inactive level before the print trigger occurs. Do not hold the input active during the print. The correct timing is illustrated below. In this example, label 1 will be suppressed, label 2 will be printed.</p>  <p>1 = Label 1 2 = Label 2 3 = Print Trigger 4 = Suppress Print</p> |
| Print enable | Enable or disable printing, this input will not turn the ink jet on or off. |
| CSR clock | This interrupt is for the Custom Shift Register (CSR) feature used in conjunction with the CSR data input. This is used in special applications such as Tetrapak. |
| CSR data | This input is for the custom shift register feature mainly used in special applications like Tetrapak. |
| Reset backlash | Reset the encoder backlash count to zero. See Encoder Mode Setup on page 115 |

4. The number for each pin will turn green to indicate when an input is received.

| | |
|--------------------|---|
| Input Received | 0 |
| Input NOT Received | 0 |

Outputs

Assign a function to each output pin to ensure the correct function is triggered.

-
- Notes
1. Inputs and Outputs that are labelled “B-Pin” are valid for the GPIO port J19 (if fitted), see [GPIO Port on page 329](#).
 2. The inputs and outputs that are labelled “Ext25” are valid for the 25 way user port J24 (if fitted), see [25 Way User Port on page 333](#).
 3. The inputs and outputs that are labelled “Ext37” are valid for the 37 way user port J23 (if fitted), see [37 Way User Port on page 331](#).
-

To assign pins to specific output functions:

1. Select *Home > Setup > I/O Port > Assignment*.
2. Scroll down the screen to the list of *Output* functions.
3. Select the *Active level* drop down setting for each output pin and select if a High or Low signal will be sent when the output function is active.
4. Adjust the *Pulse time (ms)* value for each pin to set the length of the output pulse.
5. Select the *Function* drop down setting for each output pin and select a function as described in the table below.



| Setting | Explanation |
|--------------------------|---|
| Unassigned | The pin will not be assigned to any function. |
| Printer ready | The output will be switched when the printer has compiled/rendered the label for printing. |
| Good print | The output will be switched when printing is good. |
| Bad print | The output will be switched when an alert that could affect printing the right message on the right product occurs. Examples of alerts that will trigger the output include, Print stretch detected, Long print, Check print quality, Detected too Many Products, Some Ignored, Print Trigger Occurred Too Early, and Print GO occurred While Printing. |
| EDC buffer low | The output will be switched when the amount of data in the EDC (external data capture) starts to run low. |
| EDC buffer high | The output will be switched when the amount of data in the EDC (external data capture) is high. |
| External comms ack | The output will be switched to confirm when an EDC or Codenet command is acknowledged. |
| Print complete | The output will be switched after a label has finished printing. |
| Print Counter 1 Rollover | The output will be switched when the rollover of counter element 1 in the currently printing label occurs. |
| Print Counter 2 Rollover | The output will be switched when the rollover of counter element 2 in the currently printing label occurs. |
| Print Counter 3 Rollover | The output will be switched when the rollover of counter element 3 in the currently printing label occurs. |

| Setting | Explanation |
|------------------------------|--|
| Print Counter 4 Rollover | The output will be switched when the rollover of counter element 4 in the currently printing label occurs. |
| Reset print counter 1 output | The output will be switched when the command to reset counter element 1 in the currently printing label is sent. |
| Reset print counter 2 output | The output will be switched when the command to reset counter element 2 in the currently printing label is sent. |
| Reset print counter 3 output | The output will be switched when the command to reset counter element 3 in the currently printing label is sent. |
| Reset print counter 4 output | The output will be switched when the command to reset counter element 4 in the currently printing label is sent. |

6. To send a test output signal press the *Test* button for each output.

| | |
|------|---|
| Test |  |
|------|---|

7. The number next to each output will turn green to indicate when the output is active.

| | |
|--------------------|---|
| Input Received |  |
| Input NOT Received |  |

Monitor

The Monitor screen is used to monitor input and output statistics. The External Data Capture (EDC) queues and the product detect queue can also be cleared on this screen. The settings and information available on the Monitor screen are explained in the table below.

To view the IO Port monitor screen:

1. Select *Home > Setup > IO Port > Monitor*.
2. The settings described in the table below can now be changed:

| Setting | Explanation |
|---------------------------|---|
| 'EdcSerial' queue state | Displays the number of data packets transmitted over serial connection that are stored in the GPI input queue. Select <i>Clear</i> to clear the GPI input queue. |
| 'Edc TcpSink' Queue state | Displays the number of data packets transmitted over Ethernet TCP/IP connection that are stored in the GPI input queue. Select <i>Clear</i> to clear the GPI input queue. |
| Current PD frequency | Displays the product detect sensor frequency as also displayed on the line movement graph. To view the line movement graph select <i>Home > Setup > Production line setup > Line movement</i> . |
| EDC history reset | Data packets received by the printer can be stored in the historic log. This allows new data to be checked against historic data to avoid printing duplicate information. This setting displays the number of historic logs stored in the printer. Select <i>Clear</i> to clear the historic log. |
| Encoder count | Displays the number of shaft encoder pulse counts. |
| Encoder frequency | Displays the shaft encoder pulse count frequency in Khz as also displayed on the line movement graph. To view the line movement graph select <i>Home > Setup > Production line setup > Line movement</i> . |
| PD queue state | Displays the number of print trigger signals that are queued. Select <i>Clear</i> to clear the queue. |

External Label Selection

External devices can be connected to the user ports (if fitted) or GPIO port (if fitted) to select labels for printing. External label selection uses assigned input pins as a binary reference to select labels from the printers internal memory and send them to print.

-
- | | |
|-------|--|
| Notes | <ol style="list-style-type: none"> 1. Up to four input pins on the GPIO port can be assigned to label selection. If all four input pins are assigned to label selection, up to 15 labels can be selected. 2. Up to eight input pins on the 25-way user port and 37 way user port can be assigned to label selection. If all eight input pins are assigned to label selection, up to 255 labels an be selected. 3. The number of pins available for label selection will be reduced if pins are assigned to other functions. |
|-------|--|
-

Assign Input Pins to Label Selection


To assign input pins to label selection:

1. Select *Home > Setup > IO Port > Assignment*.
2. Select each required input pin and select *Label selection*.

Assign Labels to Slot Numbers

Assign each label a slot number to make the label available for external label selection. When a binary signal is received via the assigned input pins, the number received will select the label that is assigned to that slot number and sent the label to print.

To assign a label to a slot number:

1. Select *Home > Setup > IO Port > Assignment*.
2. Assign the required number of input pins to *Label selection*.
3. Select *Label select*.
4. Either select the  icon to automatically populate the label slots with labels. Or, select each label slot and select specific labels to assign to each slot.
5. Select *ON*.

Disable External Label Selection

To disable external label selection:

1. Select *Home > Setup > IO Port > Label select*.
2. Select the icon at the top of the screen to clear the label slots.
3. Select *Assignment*.
4. Un-assign the input pins, or assign the input pins to different functions.

Binary Inputs for Label Selection

The table below lists the valid binary inputs for label selection using the GPIO port.

| Label Slot Number | Pin B+C | Pin D | Pin E | Pin F |
|--------------------|-----------------|-------|-------|-------|
| Label Slot Number | Inputs Selected | | | |
| Input Binary Value | 1 | 2 | 3 | 4 |
| No Label Selected | 0 | 0 | 0 | 0 |
| Slot 1 | 1 | 0 | 0 | 0 |
| Slot 2 | 0 | 1 | 0 | 0 |
| Slot 3 | 1 | 1 | 0 | 0 |
| Slot 4 | 0 | 0 | 1 | 0 |
| Slot 5 | 1 | 0 | 1 | 0 |
| Slot 6 | 0 | 1 | 1 | 0 |
| Slot 7 | 1 | 1 | 1 | 0 |
| Slot 8 | 0 | 0 | 0 | 1 |
| Slot 9 | 1 | 0 | 0 | 1 |
| Slot 10 | 0 | 1 | 0 | 1 |
| Slot 11 | 1 | 1 | 0 | 1 |
| Slot 12 | 0 | 0 | 1 | 1 |
| Slot 13 | 1 | 0 | 1 | 1 |
| Slot 14 | 0 | 1 | 1 | 1 |
| Slot 15 | 1 | 1 | 1 | 1 |

Domino Ax-Series Product Manual

Domino Printing Sciences plc has a policy of continuous product improvement, the Company therefore reserves the right to modify the specification contained within this document without notice.

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For additional documentation, including other available languages, either scan the QR code, or go to <https://mydomino.domino-printing.com>

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