

# Ux-Series User Guide

Ux360i

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# DOMINO

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# AMENDMENT RECORD


## Amendment

All parts at Issue 1  
All parts at Issue 2  
All parts at Issue 3

## Date

May 2025  
February 2026  
April 2026

# PREFACE

<b>WARNING:</b>	<b>Invisible Class 4 Laser Radiation. Risk of Personal Injury.</b>
	<p><b>Read the installation instructions before and when operating this laser coding system.</b></p> <p>This product emits powerful invisible ultraviolet laser radiation. A risk of personal injury or damage to equipment including fire may result if proper safety precautions are not obeyed.</p>

This document, EPT097939, has been produced for use in the operation of the Domino Ux-Series laser coding system and to reinforce and complement any training program available with the product. It is not designed to replace any such training program.

This document is intended for use only with the Ux-Series laser coding systems that are listed below:

**Controller:**

UxCTR 1

**Laser Head:**





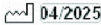













Ux360i

**Optional User Interface:**

TouchPanel

## System Naming Conventions

System Name (Example)	Explanation	Possible Options
Ux	Ux-Series model range	Ux
360i	Value that identifies the capability of the laser coding system	360i

Type Label (Examples)	Description
  <p data-bbox="104 352 748 376"> <span>UK REP</span> Domino UK Limited, Bar Hill, Cambridge CB23 8TU, UK   CAN ICES-3(A)/NMB-3(A)         </p> <p data-bbox="104 387 748 451">           This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.         </p> <p data-bbox="171 459 692 499">           Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.         </p>	<p data-bbox="798 225 1005 312">           This type label is on the front of the laser head.         </p>
 <p data-bbox="204 552 264 571">Ux360i</p> <p data-bbox="152 576 297 600">Type: <b>Ux360i</b></p>  <p data-bbox="169 643 367 667">Input: 48VDC, max. 12A</p>  <p data-bbox="322 671 484 695">Made in Germany</p>  <p data-bbox="204 703 652 751">       Domino Laser GmbH        Fangdieckstrasse 75a, 22547 Hamburg, Germany     </p>  	<p data-bbox="798 520 1000 608">           This type label is on the rear of the laser head.         </p>
 <p data-bbox="104 866 269 890">Type: <b>UxCTR 1</b></p> <p data-bbox="104 895 348 943">       Input: 100-240VAC 50/60Hz        max. 12A / 1200VA     </p>   <p data-bbox="152 986 384 1066">       Domino Laser GmbH,        Fangdieckstrasse 75a,        22547 Hamburg, Germany     </p>  <p data-bbox="152 1070 344 1094">Made in China</p>  <p data-bbox="152 1098 496 1177">       Domino UK Limited,        Trafalgar Way, Bar Hill,        Cambridge, CB23 8TU, United Kingdom     </p>      <p data-bbox="658 1230 762 1254">8D2611001DP</p> <p data-bbox="104 1262 647 1302">       Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.     </p> <p data-bbox="686 1262 740 1286">       D0352Y001        Ver.1.0     </p>	<p data-bbox="798 815 1000 903">           This type label is on the rear of the controller head.         </p>

# CHINA ROHS

产品中有害物质的名称及含有的信息表											
型号	有害物质										
UXCTR 1											
部件名称	Pb	Hg	Cd	Cr(VI)	PBBs	PBDEs	DBP	DIBP	BBP	DEHP	
抽屉	×	○	○	○	○	○	○	○	○	○	
盖板	○	○	○	○	○	○	○	○	○	○	
标签	○	○	○	○	○	○	○	○	○	○	
电路板	×	○	○	○	○	○	○	○	○	○	
插线	×	○	○	○	○	○	○	○	○	○	
附件	○	○	○	○	○	○	○	○	○	○	
包装材料	○	○	○	○	○	○	○	○	○	○	

注1: ○:表示该有害物质在该部件所有均质材料中的含量均不超出电器电子产品有害物质限制使用国家标准要求。  
 ×:表示该有害物质至少在该部件的某一均质材料中的含量超出电器电子产品有害物质限制使用国家标准要求。  
 注2: 以上未列出的部件,表明其有害物质含量均不超出电器电子产品有害物质限制使用国家标准要求。

作成: 2025.6.25

产品中有害物质的名称及含有的信息表											
型号	有害物质										
Ux360i											
部件名称	Pb	Hg	Cd	Cr(VI)	PBBs	PBDEs	DBP	DIBP	BBP	DEHP	
LH M23 HARNESS ASSY Ux-SERIES	○	○	○	○	○	○	○	○	○	○	
LASER IF HARNESS ASSY Ux360i	○	○	○	○	○	○	○	○	○	○	
CNVP LH PWR HARNESS ASSY Ux360i	○	○	○	○	○	○	○	○	○	○	
CNVP LH IF HARNESS ASSY Ux360i	○	○	○	○	○	○	○	○	○	○	
LASER PWR HARNESS ASSY Ux360i	×	○	○	○	○	○	○	○	○	○	
SHUTTER SENSOR HARNESS ASSY Ux360i	○	○	○	○	○	○	○	○	○	○	
FAN HARNESS ASSY Ux360i	×	○	○	○	○	○	○	○	○	○	
FRONT LED HARNESS ASSY Ux-SERIES	○	○	○	○	○	○	○	○	○	○	
DGAL HARNESS ASSY Ux360i	○	○	○	○	○	○	○	○	○	○	
SHUTTER HARNESS ASSY Ux-SERIES	○	○	○	○	○	○	○	○	○	○	
FAN RELAY HARNESS ASSY Ux360i	×	○	○	○	○	○	○	○	○	○	
TELESCOPE ADJUSTABLE Ux360i	○	○	○	○	○	○	○	○	○	○	
MIRROR D12.7 T3 Ux-SERIES	○	○	○	○	○	○	○	○	○	○	
CNV PWR PCB B58B161 ASSY Ux-SERIES	○	○	○	○	○	○	○	○	○	○	
LHE PCB B58B152 ASSY Ux360i	○	○	○	○	○	○	○	○	○	○	
HEX PILLAR M5X30 Ux360i	×	○	○	○	○	○	○	○	○	○	
TIE HOLDER MB1 Ux-SERIES	×	○	○	○	○	○	○	○	○	○	
SEAL WASHER SWS-5	×	○	○	○	○	○	○	○	○	○	
HEX PILLAR M4X95 Ux360i	×	○	○	○	○	○	○	○	○	○	
BLIND PLUG M16x1.5 Ux-SERIES	×	○	○	○	○	○	○	○	○	○	
KNOCK-PIN DIN7 3x10 m6 SS	×	○	○	○	○	○	○	○	○	○	
SCANHEAD HS Ux-SERIES	×	○	○	○	○	○	○	○	○	○	

注1: ○:表示该有害物质在该部件所有均质材料中的含量均不超出电器电子产品有害物质限制使用国家标准要求。  
 ×:表示该有害物质至少在该部件的某一均质材料中的含量超出电器电子产品有害物质限制使用国家标准要求。  
 注2: 以上未列出的部件,表明其有害物质含量均不超出电器电子产品有害物质限制使用国家标准要求。

作成: 2025.6.18

## GENERAL

Ux-Series laser coding systems are designed and manufactured in accordance with international standards and other technical specifications. The equipment conforms to current technology and approved safety requirements.

The required safety standard can only be achieved if the safety actions are completed and maintained. It is the equipment operator's duty to plan these actions and continuously check them.


Ux-Series laser coding systems are designed for fully automated coding of packaging materials and products by use of laser radiation.

This product is classified as a Class 4 Laser when sold. During operation, it emits up to 7 W of pulsed, invisible UV laser radiation at a wavelength of 355 nm. When you operate, repair or do maintenance on this product, wear laser eye protection that meets the correct requirement listed below.

Optical density (OD) values:

- 355 nm: OD7 or higher
- 532 nm: OD3 or higher
- 880 nm: OD1 or higher
- 1064 nm: OD2 or higher

*Note: Protective safety goggles (DLB6 IRLB7 [OD7+] for 355 nm, DLB3 IRLB3 [OD3+] for 532 nm, DLB3 [OD1+] for 880 nm, DLB3 IRLB3 [OD2+] for 1064 nm) can be ordered from Domino (see the Ux-Series Spares & Accessories Catalogue on <https://mydomino.domino-printing.com/>).*

<b>DANGER:</b>	<b>Laser Radiation. Risk of Personal Injury</b>
	<p><b>Do not look at direct and reflected light from the laser, even when wearing laser eye protection.</b></p> <p>Laser eye protection protects the eyes from scattered light. Laser eye protection cannot protect eyes from direct or reflected light.</p>

Obey the following instructions:

- Only use the laser coding system after it has been installed and guarded to Class 1 laser safety standards (IEC 60825-1:2014 and EN 60825-1:2014+A11:2021). The laser provides Class 4 laser radiation from the laser aperture on the scan head.
- Only use the equipment for its intended purpose.
- Only operate the equipment in good, serviceable condition.
- Regularly check safety installations.
- Wear protective safety goggles for maintenance and repair.
- Only use suitable and approved tools and equipment.

- Make sure that the installation instructions are complete and in a legible condition at the equipment location at all times.
- Make sure that the rules and laws about accident prevention are available and obeyed.
- Only competent and authorised personnel can operate, maintain, and repair the laser coding system.
- Instruct personnel about safety and environmental protection.
- Make sure that the personnel are familiar with the installation instructions and safety instructions.
- Do not remove safety and warning signs from the laser coding system.
- Make sure that safety and warning signs are maintained in a legible condition.
- Obey local laws/regulations, when disposing of the laser coding system.
- Never block the air inlet or air outlet of the laser coding system.

## **INTENDED USE**

The Ux-Series laser coding system is intended for fully automated coding of packaging materials and products by laser radiation. The complete Ux-Series laser coding system codes goods with its laser head in static, mark-on-the-fly or mark-on-the-disk applications. It is built for permanent installation in a professional environment.

The intended use of the Ux-Series laser coding system, including Ux-Series controller and laser coding head, is the fully automated and permanent coding of, but not limited to, the following materials and products by laser radiation:

- flexible film
- plastics

The Ux-Series laser coding system is not intended for use within a non-professional or household environment.

The Ux-Series laser coding system is not intended for use as a medical or cosmetic device.

If the laser coding system is used for improper purposes, all liability claims will be refused.

The manufacturer will not be liable for any material or personal damages resulting from non-intended usage.

## **TARGET AUDIENCE**

Only qualified and authorised personnel are permitted to operate the Ux-Series laser coding system.

The Ux-Series laser coding system must only be maintained, serviced and disposed of by authorised and specifically trained personnel who are familiar with the defined procedures. This special training is available via the Domino Laser Academy (it is not a standard laser training).

## **INSTALLATION ENVIRONMENT**

### **Installation Site:**

The Ux-Series laser coding system is intended for a permanent installation in manufacturing sites and in areas like manufacturing sites.

The laser coding system must be installed in areas that comply with the following environmental conditions:

- inside the factory
- the installation room must be equipped with suitable room ventilation

## **SOFTWARE LICENSING**

This product contains open source software components that are subject to the terms and conditions of the applicable open source licences. Those open source software components, the open source licences applicable to them, and, where required, copies of their source code, can be found at:

<https://www.domino-printing.com/en-gb/legal-and-ip/open-source-licensing.aspx>

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# HEALTH AND SAFETY

## DANGER, WARNINGS, CAUTIONS AND NOTES


### Description of a Danger

<b>DANGER:</b>	<b>Hazard...., Risk of....,</b>
	<b>Avoidance.... Do/Do not....</b> Danger is used to alert the reader to hazards that will cause immediate loss of life, serious physical injury or ill health.

### Description of a Warning

<b>WARNING:</b>	<b>Hazard...., Risk of....,</b>
	<b>Avoidance.... Do/Do not....</b> A warning is used to alert the reader to hazards that could cause loss of life, serious physical injury or ill health. It includes how to avoid the risk.

### Description of a Caution

<b>CAUTION:</b>	<i>Possible Hazard. Risk of Damage to Equipment.</i>
	<i>Avoidance.... Do/Do not....</i> A caution is used to alert the reader to hazards that could cause damage to equipment or the environment. It includes how to avoid the risk.

### Description of a Note

*Note:* A note is used to alert the reader to important information.

## DANGER, WARNING AND CAUTION SYMBOLS



Warning or Caution. Read and comply with the text underneath this symbol to avoid loss of life, physical injury or damage to equipment.



Risk of laser radiation.



Risk of fire by igniting flammable material.



Risk of coming into contact with electricity.



Risk of mechanical parts which can come together in a crushing movement.



Eye protection must be worn.



Wear protective gloves.



Disconnect power before doing maintenance or repairs.





Read the manual before doing this procedure.





Heavy load. Two-person lift.


## GENERAL DANGERS

DANGER:	Laser Radiation. Class 4 Laser Product. Risk of Personal Injury.
	<p><b>Depending on the local installation environment, fit the laser with Class 1 laser safety guarding before you operate the laser coding system or make it ready for use.</b></p> <p>This is necessary to safeguard against accidental exposure to direct or scattered radiation.</p> <p>You can find guidance on the creation and installation of laser guarding in Part 1 of the Product Manual.</p>

<b>DANGER:</b>	<b>Laser Radiation. Class 4 Laser Product. Risk of Personal Injury.</b>
	<p><b>Avoid eye or skin exposure to direct or scattered radiation. Set up a laser safety zone and wear appropriate eye protection if it is possible that laser radiation above Class 1 may become available.</b></p> <p>You can find information on the correct type of Protective Safety Goggles in this user guide.</p> <p>UV-A light near 355 nm can cause photochemical reactions of the skin, accelerated skin aging and potentially skin cancer, depending on the exposure duration. When working near Class 4 UV lasers, cover as much of the skin as adequate.</p> <p>This product provides Class 4 laser radiation from the laser aperture on the scan head. This radiation is an invisible, ultraviolet laser radiation with a wavelength of 355 nm and a maximum power of 7 W.</p> <p>Leakage wavelengths are:</p> <ul style="list-style-type: none"> <li>• 878.6 nm <math>\leq</math> 1 mW</li> <li>• 1064 nm <math>\leq</math> 3 mW</li> <li>• 532 nm <math>\leq</math> 1.5 mW.</li> </ul> <p>Before the product is used, make sure that fumes, particles and gases that are created during the lasing process are safely removed. This can be achieved by installing an extraction system that is adapted to the planned lasing process.</p>


<b>WARNING:</b>	<b>Laser Radiation. Class 4 Laser Product. Risk of Personal Injury.</b>
	<p><b>Do not use controls, adjust the laser coding system's performance or do any procedure, other than those specified in this user guide.</b></p> <p><b>Do not apply changes or modifications that are not expressly approved by the manufacturer.</b></p> <p>To do so may result in hazardous radiation exposure and may void the user's authority to operate the equipment.</p>

<b>WARNING:</b>	<b>Laser Radiation. Class 2 Laser Product. Risk of Personal Injury.</b>
	<p><b>DO NOT STARE INTO BEAM.</b></p> <p>This product optionally emits Class 2 laser radiation for aiming purposes from the laser aperture on the scan head. This radiation is a visible red laser radiation with a wavelength of 630 – 670 nm and CW power of <math>\leq 1</math> mW.</p>

<b>CAUTION:</b>	<i>Heavy Lifting. The Laser Unit Weighs More Than 18 kg.</i>
	<p><i>The weight of the complete Laser Unit is 22 kg. Take appropriate care if the unit is moved during installation or repair.</i></p> <p>The unit may only be moved by risk-assessment trained technicians who are familiar with the appropriate Domino standards in lifting techniques.</p> <p>Depending on the individual physical lifting capabilities and the planned lifting technique, more than one technician may be necessary to distribute the weight in a safe way.</p>

# SPECIFIC DANGERS

## Electrical Energy

<b>WARNING:</b>	<b>Mains Electricity. Risk of Personal Injury.</b>
	<b>Do not open the laser coding unit.</b> Only competent and authorised personnel are permitted to open the controller or work on live electrical components. If power supply becomes defective, stop operation of the laser coding system immediately.
	The maximum operating voltage of the Ux-Series laser coding system is the connected mains voltage. The mains voltage of the controller is 100 V – 240 V at 50 Hz – 60 Hz.



### Shutter

The Ux360i is equipped with a shutter to prevent uncontrolled laser radiation from exiting the scan head. The shutter is part of the interlock control circuit and ensures a redundant blocking of the beam path while the dual channel laser safety circuit (interlock) is open, or the safety relay is disengaged. The shutter opens the beam path only when the laser safety circuit is closed and the safety relay has been reset by an external signal. The laser beam source stays activated when the laser coding system is in standby with an open safety circuit, and laser radiation is safely stopped from exiting the laser coding system. This results in faster restarts and increases power stability of the laser.


### Noise

The laser coding system emits a noise level lower than 80 dB(A) during operation. Therefore, no personal protective equipment (PPE) against noise is needed. Local regulations may differ.

## Crushing


<b>WARNING:</b>	<b>Moving Products. Risk of Crush Injury.</b>
 	<p><b>Do not enter the enclosure area when the laser coding system is in operation.</b></p> <p>There is a risk of crush injury from:</p> <ul style="list-style-type: none"> <li>• Products moving along the laser head.</li> <li>• Products moving into and out of the protective housing.</li> <li>• Doors and maintenance openings of the protective housings.</li> </ul>


## Harmful Dusts and Vapours

<b>WARNING:</b>	<b>Harmful Dusts and Vapours. Risk of Personal Injury.</b>
	<p><b>Use an appropriate extraction system to decrease the level of harmful dusts and vapours to a level that complies with the allowed maximum concentration of pollutants in the workplace.</b></p>

The coding process can cause harmful dusts and vapours, depending on the materials used in the process. The user is responsible for appropriate measures (e.g. an exhaust system) to decrease the level of harmful dusts and vapours to a level that complies with the allowed maximum concentration of pollutants in the workplace.

## Lenses and Scan Head Mirrors

<b>CAUTION:</b>	<i>Sensitive Equipment. Risk of Damage to Equipment.</i>
	<p><i>Do not touch the mirrors or lenses.</i></p> <p>Oils and dirt can cause damage to the laser. If you do touch a mirror or a lens, carefully clean the mirror or lens with Isopropyl Alcohol.</p>

<b>CAUTION:</b>	<i>Sensitive Equipment. Risk of Damage to Equipment.</i>
	<p><i>Remove the lens cap before operation.</i></p>
	<p>Cover the lens with the protective cover to avoid accidental water splashing. Cover the lens during cleaning and maintenance of the laser coding system.</p>

*Note: If the lens has become dirty, it must be thoroughly cleaned and dried before operation.*

The optical assemblies of the Ux-Series lasers use AR-coated fused silica lenses and dielectric multilayer mirrors on silicon substrates.

Only competent and authorised personnel trained to Domino standards should be permitted to have access to the internal optics for inspection or cleaning. During operation or during service work on the system, various indicators show whether there is damage to the optical components.

Indicators of possible optics decomposition are:


- Degradation of coding quality.
- Lens fragments in the scan head or in the beam guide.

Cleaning and disposal:

- Do not eat or drink during work and wash hands after touching lenses and mirrors and always after finishing work.
- Remove all lens fragments and dust deposits with an industrial vacuum cleaner Class H; if no industrial vacuum cleaner Class H is available, use adhesive tape to pick up dust and fragments.
- After all fragments that could damage the gloves have been removed, clean the beam guide and scan head with a damp cloth and remove all powdery deposits.

All lens parts as well as the cleaning rags with powder residues and protective equipment and the vacuum cleaner bag and filters must be collected in a plastic bag which must be hermetically sealed after completion of the work and then sent for proper disposal.

## Laser Coding Process

WARNING:	Fire Hazard. Risk of Personal Injury.
	<p><b>Install a fire detector near the laser to monitor the coding process.</b></p> <p>Fire risks are listed below. This list is not considered to be complete. Consider local conditions as well.</p> <p>Do not code on unspecified materials such as flammable or explosive materials.</p> <p>Make sure that the laser parameter settings are correct for the application.</p> <p>Make sure that the coding speed is not too low.</p> <p>Make sure that you do not use corrupted code data.</p> <p>Do not allow the laser to continue to code onto the same area.</p> <p>Make sure that the product keeps moving.</p> <p>Do not allow flammable gases or materials to accumulate inside the working area.</p>

*Note: In the coding process, software controls the laser beam. Consider the software as part of the risk assessment.*

Potential fire risks could result from examples as listed below. This list is not considered to be complete. Local conditions must be considered as well.

- Coding on unspecified material such as flammable or explosive materials.
- Incorrect parameter settings such as a very low coding speed.
- Incorrect parameter settings due to corrupted code data.
- Coding constantly on the same product (no product movement).
- Flammable gases or materials inside the working area.

Install a fire detector near the laser to monitor the coding process.


### Protective Safety Goggles

Domino recommends protective safety goggles with these specifications:

- DLB6 IRLB7 (OD7+) for 355 nm
- DLB3 IRLB3 (OD3+) for 532 nm
- DLB3 (OD1+) for 880 nm
- DLB3 IRLB3 (OD2+) for 1064 nm

*Note: You can order these protective safety goggles from Domino (see the Ux-Series Spares & Accessories Catalogue on <https://mydomino.domino-printing.com>).*

## Laser Radiation

DANGER:	Laser Radiation. Risk of Personal Injury
	<p><b>Do not use the laser coding system until interlocking guarding is fitted to achieve a Class 1 laser installation.</b></p> <p>As supplied, the Ux-Series is a Class 4 laser.</p> <p>Guarding must physically prevent access to laser radiation, or automatically disable the laser when access to the coding area is required (for cleaning or maintenance, etc.).</p>

Laser radiation can pose a risk to eyes and skin. The danger is created by direct laser radiation and scattered radiation/reflections from the work piece or the packaging machine. The degree of injury depends on the duration of exposure, the power and the wavelength of the laser.

Lasers and their installations are classified into 4 main laser protection classes (and 7 subclasses) depending on their potential danger. Class 1 is the safest and Class 4 is potentially the most harmful. These classes are defined in detail in IEC 60825-1:2014 and EN 60825-1:2014+A11:2021, Part 1. The main classes that are relevant to the Ux-Series are summarised below:

- Class 1      The accessible laser radiation may be visible or invisible and is harmless.
- Class 2      The accessible laser radiation is visible and is harmless for accidental exposure to eyes for periods of less than 0.25 seconds.
- Class 4      The accessible laser radiation can be visible or invisible. Direct and diffuse radiation is extremely harmful to eyes and skin and can pose a fire risk if projected onto combustible materials.

### Maximum Allowed Vibration for the Laser Head


The maximum allowed Power Spectral Density (PSD) for the laser head is  $5 \times 10^{-5} \text{ g}^2/\text{Hz}$  in a range from 20 Hz to 1000 Hz.

## RESIDUAL RISKS

### Guarding

Guarding is an integral part of laser safety.

To complete the machinery, laser guarding must be constructed and certified by specialists that are trained and have understood the use of the local laser regulations. You can use the international standards that are mentioned here as a basis but you must also obey all local regulations.

<b>DANGER:</b>	<b>Laser Radiation. Risk of Personal Injury.</b>
	<p><b>Do not use the laser coding system until a suitable safety enclosure with interlock switches is installed to reach Class 1.</b></p> <p>This safety enclosure must fulfil the requirements that are listed below:</p> <ul style="list-style-type: none"><li>• After closing the guard door(s), it is not possible that persons can be exposed to laser radiation (this means i.e. that no persons can be inside of the safety enclosure).</li><li>• After closing the guard door(s), no laser radiation above the Class 1 limits can get out of the safety enclosure.</li></ul> <p>The system integrator must check that these requirements are fulfilled.</p> <p>As supplied, the Ux-Series laser systems are Class 4 lasers.</p>

This Domino laser coding system can emit Class 4 laser radiation through the lens of the scan head when the dual channel safety circuit is closed and the laser coding system is supplied with power.

Before supplying power to the laser coding system, make sure that the environment is securely guarded against accidental exposure to direct or scattered radiation.

Inside the laser guarding, take precautions that prevent the laser energy from acting as an ignition source.

Domino recommends the following standards for assessing and constructing guarding:

- ISO 12100:2010 "Safety of machinery - General principles for design - Risk assessment and risk reduction".
- IEC 60825-1:2014 and EN 60825-1:2014+A11:2021 Safety of laser products - Part 1: "Equipment classification and requirements" and to certify that the guarding is Class 1 laser guarding.
- More detailed laser guarding information is available in the standard IEC 60825-4:2022 Safety of laser products - Part 4: "Laser guards".

- ISO 14120 Safety of machinery – Guards – “General requirements for the design and construction of fixed and movable guards” is applicable as the guard will be part of the machinery setup.

If you need support in planning and verifying your laser guard, please contact Domino.

## **Guarding Labels**

International laser warning signs and numbers of laser performance data based on standards IEC 60825-1:2014 and EN 60825-1:2014+A11:2021 “Safety of laser products” are attached to the laser coding system during manufacturing.

To make sure that the meaning of the laser warning symbols is understood, the laser safety standard defines supplementary text on these signs to increase comprehension.

Signs with the supplementary text in English language are attached during manufacturing.

It is mandatory to apply extra signs in the local language as defined in local standards (i.e. the Machinery Directive for European countries) if the local language differs from English. Check the presence and readability of these signs regularly.

Warning signs and their locations on the laser coding system are explained in the Product Manual. Refer to the topics “Mandatory Warning Labels for Installation” and “Local Language Labels for Installation”.

## **Interlock Switches**

Install interlock switches at all access guards to prevent access to the laser output lens and coding area that can be opened without the use of access tools.

Interlock switches must be wired into the laser control circuit so that the shutter closes when the guard door is opened, blocking the laser beam.

## **Emergency Off**

Integrate the laser into the emergency off circuit of the machine into which the laser is integrated. The emergency off circuit must include an emergency off button that immediately switches off the electrical power supply to the laser coding system.


Alternatively, if the machine into which the laser is integrated has an emergency stop circuit, the interlock safety circuit of the laser coding system can be connected to the emergency stop circuit, which includes an emergency stop button. In case of an emergency stop, the laser coding system will continue to have power, but the shutter will close, and the laser beam will be blocked.


# PRODUCT DISPOSAL

Contact a local approved recycling specialist.

## PRODUCT/BATTERY END OF LIFE

The product contains PC-CMOS setup batteries. These are small lithium-ion button cell batteries CR2032/BE 3 V/180 mAh.

<b>WARNING:</b>	<b>Flammable Material. Risk of Fire or Explosion.</b>
	<b>Do not dispose of the battery in a fire, hot oven or by mechanically crushing or cutting.</b> <b>Obey local waste regulations when disposing of batteries.</b>
	<b>Do not store or leave the battery in high or low extremes of temperature.</b>
	<b>Do not store or leave the battery in a location that is subject to low air pressure at high altitude.</b>

<b>CAUTION:</b>	<i>Hazardous Material. Risk of Damage to Equipment and Environment.</i>
	<i>The battery is a CR2032 battery. If the battery needs replacement, obey local waste regulations when you dispose of the battery and PCB.</i>

### Recycling information in accordance with the WEEE and Battery Directives



Product mark



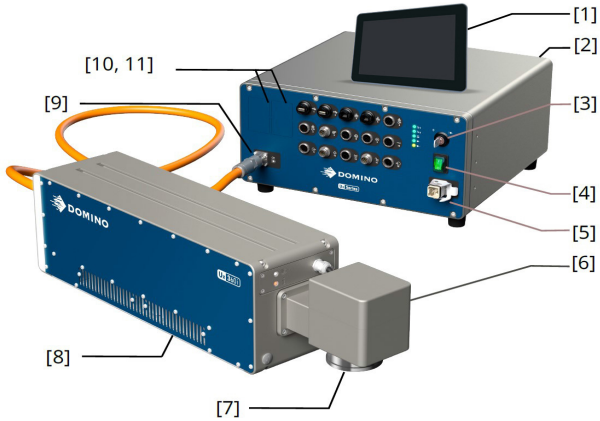
Battery mark

**European Union only**

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

# OPERATION

## SYSTEM OVERVIEW



*Ux-Series Controller,  
Ux-Series Laser Head and Optional User Interface*

#	Description
1	Optional TouchPanel
2	Ux-Series Controller
3	Key Switch
4	Main Switch
5	Mains Cable Connector
6	Scan Head
7	Laser Lens
8	Laser Head
9	Laser Head Connector and Conduit
10, 11	Multipurpose Extension Slots

# CONTROLS AND INDICATORS

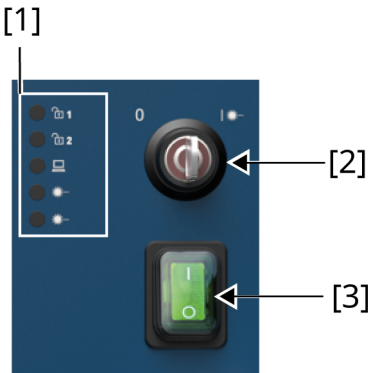
The User Interface, Indicator LEDs and Software icon functions are described in the following paragraphs.

## TouchPanel and User Interface

It is possible to operate the Ux-Series through a web browser or an optional user interface (UI). Domino recommends using the TouchPanel. The TouchPanel displays the UI. The software includes an onscreen keyboard.

See [“TouchPanel” on page 34](#) and [“Web Server” on page 35](#) for information about the connections. The TouchPanel displays the UI relating to that laser coder.

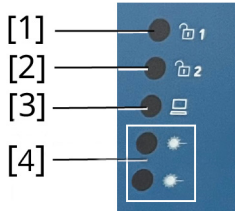
## Controls



#	Name	Description
1	Indicator LEDs	Show the state of the laser coding system (See <a href="#">“Indicator LEDs” on page 28</a> ).
2	Key Switch	<ul style="list-style-type: none"><li>• Opens the shutter to the laser if the Key Switch is in position “1”, the interlocks are closed and a label has been selected for coding.</li><li>• Closes the shutter to the laser by turning the Key Switch into position “0”.</li></ul>
3	Main Switch	Powers on/off the laser coding system.

# Indicator LEDs

## Controller



#	Name	Description
1	Interlock 1	<ul style="list-style-type: none"> <li>Green LED indicates that interlock 1 is closed.</li> <li>Red LED indicates that interlock 1 is open.</li> <li>LED is off, if Key Switch is disabled.</li> </ul>
2	Interlock 2	<ul style="list-style-type: none"> <li>Green LED indicates that interlock 2 is closed.</li> <li>Red LED indicates that interlock 2 is open.</li> <li>LED is off, if Key Switch is disabled.</li> </ul>
3	System Ready	Illuminates when the laser coding system is ready to be used.
4	Coder Status	Indicates the overall readiness of the coder for coding. Coder Status is indicated by 2 LEDs - see " <a href="#">4 Coder Status</a> ".

### 4 Coder Status

State	LED Position	
	Upper LED	Lower LED
Initialise	Yellow	Yellow
System Standby	Yellow	Yellow
Ready to Code	Green	Green
Coding	Green	Red

## Laser Head



#	Description
1	Power LED on the front of the laser head
2	Status LED on the front of the laser head
3	Power LED on the rear of the laser head

Laser power is also indicated by a white power LED on the front [1] and rear [3] of the laser head.

The status LED at the front of the laser head is a multicoloured LED which indicates:

LED Colour	Description
Green	System ready, no errors, no laser operation.
Yellow	Error. Additional information may be shown in the User Interface.
Red	To show laser emission.


# CHECKS BEFORE USING THE LASER CODING SYSTEM

Before you start the laser equipment, make sure that:


- The laser coding system has been installed and guarded to Class 1 laser safety standards (IEC 60825-1:2014 and EN60825-1:2014+A11:2021), see [“Residual Risks” on page 23](#).
- Only authorised personnel are present near the laser coding system.


Before you start production:

- Check the laser coding system for visible damage. Ensure that it is only operated in “best possible” condition.
- Remove materials and other equipment not required for production from the operating area of the laser coding system.
- Check the operation of all safety devices.
- Obey all valid rules and laws for accident prevention.


WARNING:	Class 4 Laser. Risk of Personal Injury.
	<p><b>Before you set this laser coding system into operation, you must read and understand this manual.</b></p> <p>This is a Class 4 laser using high power invisible ultraviolet light. A risk of personal injury or damage to equipment may result if proper safety precautions are not obeyed.</p>

## SET THE LASER CODING SYSTEM ON AND OFF

<b>WARNING:</b>	<b>Class 4 Laser. Risk of Personal Injury.</b>
	<b>Only use the laser coding system for its intended purpose. Only trained personnel may operate the laser coding system. Only operate the laser coding system with all required cables connected and all parts mounted. Do not disconnect any cables during operation.</b>

<b>CAUTION:</b>	<i>Protection Cap. Risk of Damage to Material.</i>
	<i>Remove the lens cap before use. The lens cap is used to prevent damage or external soiling that will cause a reduction in laser performance.</i>

### Set the Controller to On

To set the controller to on, set the Main Switch to on. Wait until the SYSTEM READY  indicator has illuminated. A white LED on the front and the rear of the connected laser head illuminates to show that there is power supply to the laser head.

### Set the Laser Head to On

Close all interlocks. Turn the Key Switch from position "0" to position "1".

The laser head can be set to on if both interlock loops are closed and if no system faults prevent the laser start. Make sure that the laser area behind the safety guard door is not accessible to anyone.

Depending on the software laser start configuration, either an external hardware LASER START signal or a software start signal is required to start open the shutter.

- The laser needs a warm-up phase, which, depending on the ambient temperature, can take up to 35 minutes.
- Obey laser safety precautions before and after you set the laser to on.

After LASER START signal and warm-up, the laser coding system gets ready to code. The two Coder Status indicators (see "[Controller](#)" on page 28) illuminate yellow during system warm-up/standby and change to green when the laser is ready to code.

### Set the Laser Emission to Off

- Turn the Key Switch from position "1" to position "0". The safety relay is set to off and the shutter is closed. The shutter is also closed when the interlock is open.

## **Set the Controller to Off**
















- Use the Main Switch on the controller front to power off the laser coding system. Power to the controller and the laser will be immediately interrupted.

# UX-SERIES CONNECTIVITY

The image below shows the connectors on the Ux-Series controller.



*Ux360i Controller Connections, including TouchPanel/Ethernet 10/100 [5]*

#	Icon	Description	#	Icon	Description
1		USB socket	9		Product Detect socket
2		USB socket	10		Encoder socket
3		Ethernet socket	11		GPIO socket
4		Ethernet socket	12		Machine Interface socket
5		Ethernet 10/100 with 24 V Power socket (pre-configured for TouchPanel)	13		Beacon socket
6		Ethernet 10/100 with 24 V Power socket (pre-configured for DCI)	14		Interlock socket
7		Vacuum/Fume Extraction socket	15		Multi Controller Interface socket
8		Socket for Compressed Air	/	/	/

## TouchPanel

The Ethernet socket No. 5 of the controller (see [“Ux360i Controller Connections, including TouchPanel/Ethernet 10/100 \[5\]”](#)) is pre-configured for a plug and play connection of the optional Domino TouchPanel via the IP address 192.168.42.1/subnet mask 255.255.0.0. Connect the TouchPanel through the TouchPanel Ethernet sockets.

Also obey the instructions in the accompanying TouchPanel Operator’s Reference Guide.

*Note: TouchPanel 6 supports only one direct Ethernet connection at the socket [3] “Ethernet +24 V”. To connect the TouchPanel 6 to more than one system, use an external Ethernet switch that supports Power over Ethernet (“PoE IEEE 802.3 at”). In this case, connect the TouchPanel 6 at the socket [2] “Ethernet (RJ45) 10/100, Power over Ethernet (PoE)”.*

## Web Server

It is also possible to connect to the laser coding system's UI via a standard web browser.

To connect, enter the following in the address field of the web browser:

- "http://[IP address of the controller]"

If using the Ethernet socket [3], the default IP address is:

- 192.168.58.2/subnet mask 255.255.255.0.0

If using the Ethernet socket [5], the default IP address is:

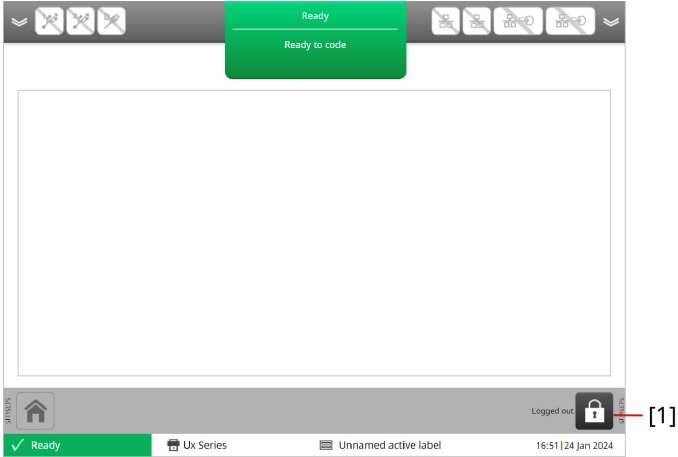
- 192.168.42.1/subnet mask 255.255.255.0.0

If using the Ethernet socket [6], the default IP address is:

- 172.16.0.101/subnet mask 255.255.0.0

# QUICKSTEP USER INTERFACE

When you start the coder, the display shows the Home Screen and *Log in/Log out* button:



#	Name	Description
1	Log in/Log out Button	Lets the user log in/log out or reset the password. <i>Note: If connected through the standard Domino HMI/ TouchPanel, a "Disconnect from Coder" button is offered.</i>

## Log In

- (1) Select the *Log in/Log out* button in the bottom right corner of the user interface.
- (2) Select a *User name* and enter the correct *Password*. The default passwords are defined in the table "[Default Password](#)":

User Level	Function	Default Password
Operator	<ul style="list-style-type: none"> <li>• Start/stop coding</li> <li>• View <i>Connections</i> and <i>Live Status</i> screens</li> <li>• Preview labels in the label store</li> <li>• Select the user interface language</li> <li>• View system information</li> <li>• Clear alerts</li> </ul>	op
Supervisor	<ul style="list-style-type: none"> <li>• Create/edit labels</li> <li>• Change the coding parameters</li> <li>• Access/save the Label editor</li> </ul>	sv
Administrator	<p>Edit most of the setup (this includes extended system parameter settings).</p> <p>Domino recommends keeping the default settings at installation. Read the Product Manual for more information on how to change extended system parameter settings.</p>	not published

*Note: Passwords are case sensitive.*

(3) Select *Log in*.

Domino recommends changing the password after the initial installation.

*Note: You must be logged in as administrator to have the option to change the password. Read the section "Security Settings" in the Product Manual for information on how to change the password.*

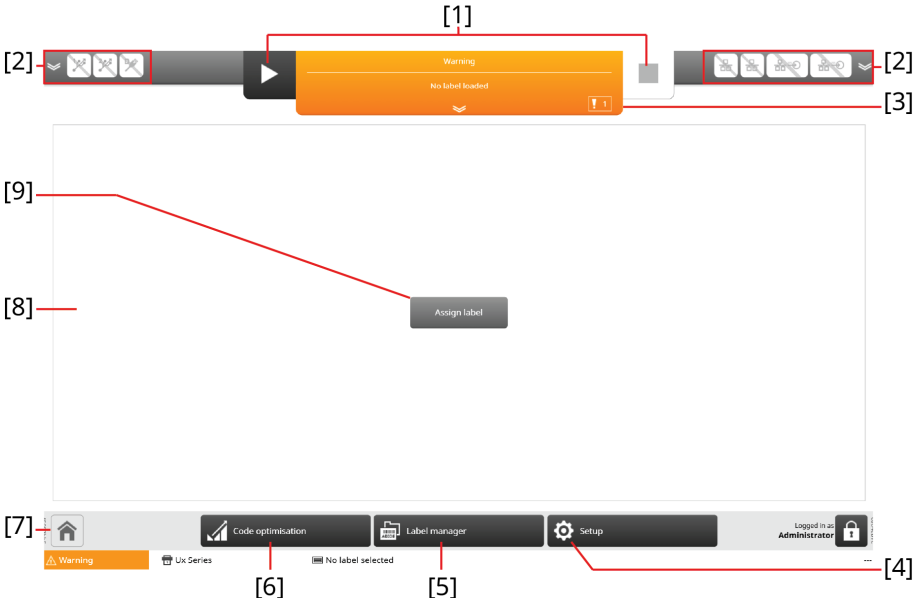
## Log Out

(1) Select the *Log in/Log out* button in the bottom right corner of the user interface.

(2) Select *Log out*.

## Home Screen

After you have logged into the user interface, the display shows all the functions on the Home Screen:

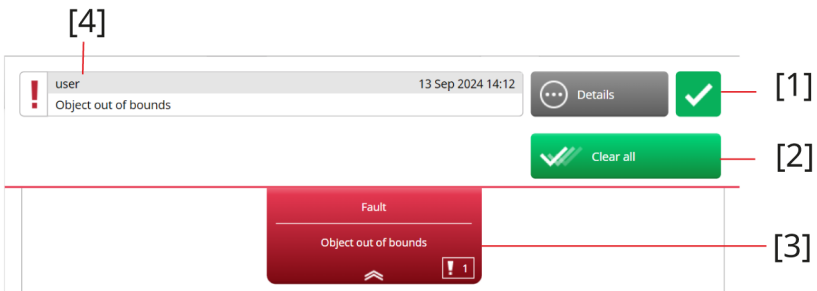


#	Name	Description
1	Start/Stop Button	<ul style="list-style-type: none"> <li>Enables coding mode</li> <li>Disables coding mode</li> </ul>
2	Connections and Live Status Arrow Icons	Show information about connected devices or the metrics of coded labels (see <a href="#">“Connections and Live Status”</a> on page 41 for more information)
3	Status Bar	Shows coder and alert status (see <a href="#">“Status Bar”</a> on page 39 for more information)
4	Setup Button	Directs to the <i>Setup</i>
5	Label Manager Button	Directs to the <i>Label manager</i>

#	Name	Description
6	Code Optimisation Button	Sets the position of the code on the product. Lets the user make real-time adjustments to a loaded label. Also lets the user do a test code when they load a label and set the laser coding system to <i>ready to code</i> .
7	Home Button	Directs to the Home Screen where all functions of the operational software can be accessed
8	Preview	Shows a preview if a label is selected
9	Assign Label	Directs to the location where existing labels are stored (only occurs if no label is loaded)

## Status Bar

The Status Bar displays the laser coder and alert status.



#	Name	Description
1	Details Button	Shows detailed alert information including: <ul style="list-style-type: none"> <li>• Date</li> <li>• Alert ID</li> <li>• Cause and recommended action to clear the alert</li> <li>• Tick icon that indicates if an alert can be cleared: green tick icon if the alert can be cleared or light grey tick icon if the alert cannot be cleared</li> </ul>
2	Clear All Button	Lets the user clear all alerts (if the alerts can be cleared)

#	Name	Description
3	Status Bar	<ul style="list-style-type: none"> <li>Shows a summary of the laser coder and alert status</li> <li>Expands and shows the laser coder and alert status upon clicking</li> </ul>
4	Coder and Alert Status	Shows basic information about the alerts

Click on the *Status Bar* [3] to:

- (1) View information about the alert. Go to the *Details* button [1] to see detailed information.
- (2) Take the recommended action and clear the alert. Select the *Clear All* button [2] to clear all alerts.

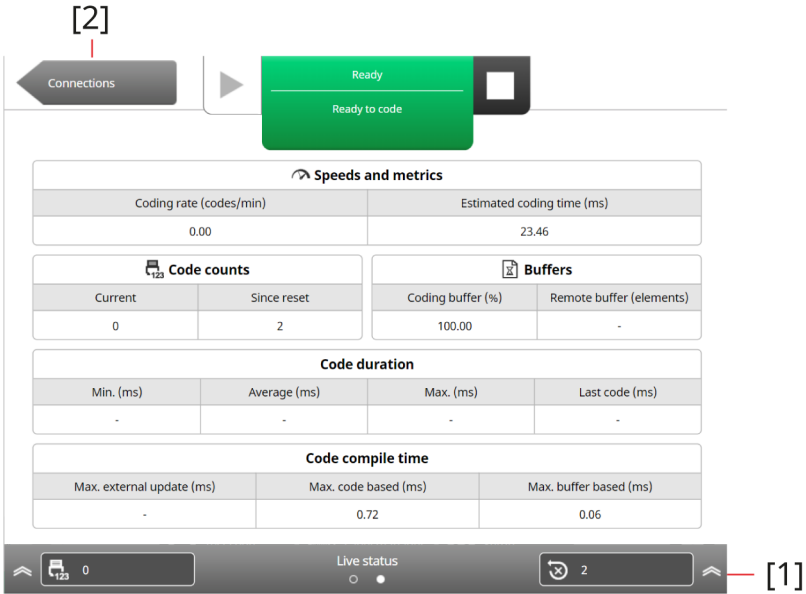
*Note: In some cases, it is not possible to clear an alert. Read the error message and recommended action. If it is not possible to do the recommended action and you cannot clear the alert, contact Domino for support.*

There are various background colours that indicate the severity of the status alert.

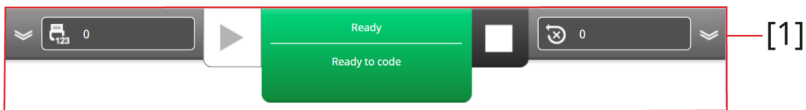
Background Colour	Description
Grey	<ul style="list-style-type: none"> <li>The laser coding system is in the <i>Idle</i> state. It will not code in this state</li> <li>Press the <i>Start</i> button to activate the laser coding system</li> </ul>
Green	<ul style="list-style-type: none"> <li>No errors or warnings</li> <li>The laser coding system is active and ready to code</li> </ul>
Amber	<ul style="list-style-type: none"> <li>There is a warning and action needs to be taken to clear this alert</li> <li>The laser coding system does not stop coding</li> </ul>
Red	<ul style="list-style-type: none"> <li>The laser coding system stops coding due to a serious fault</li> <li>Clear the condition that caused the alert</li> </ul>

## Connections and Live Status

The connection and live status displays show detailed live information about the laser coding system's performance.



#	Name	Description
1	Connections and Live Status Arrow Icons	Open and close the screen
2	Next/Previous Screen Button	Directs to the next or previous screen



- (1) Click on the *Connections and Live Status Arrow* icons to open the screen.
- (2) Click on the *Next/Previous Screen* button to change the current screen.

# Setup

*Home > Setup*

## Setup Screen

Set the basic settings and presets for operation. The *Setup Screen* shows the categories you can change. The view depends on the permissions of the user who is logged in. Administrators have the most permissions.

Select *System information* for information on Software Version & Licenses.


Read the Product Manual for information on:

- *Production line setup*
- *Global code settings*
- *Advanced*
- *Diagnostics*
- *File manager*
- *I/O port*
- *Network settings*
- *Security*
- *Regional*
- *Backup & Restore*
- *System configuration*
- *System information*
- *Laser settings*
- *Laser parameters*


# Label Management

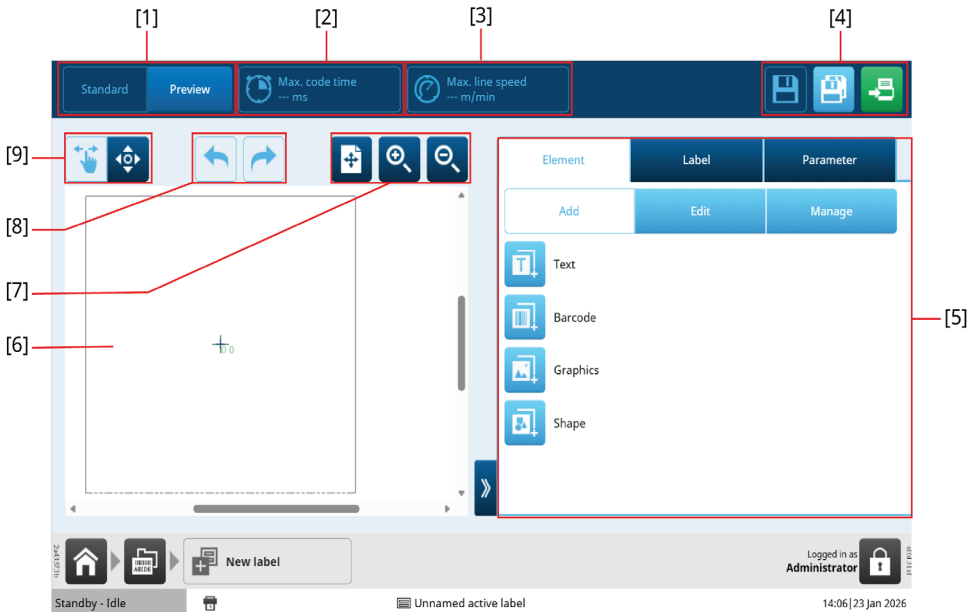
Home > Label manager

There are two ways to navigate to the *Label manager*. For both options, navigate to the Home Screen. Then, do either of these:

- Click into the *Preview* area. Select *Label manager* .
- Select the *Label manager* button directly from the Home Screen.

## Label Editor Screen



In the *Label manager*, select *New label*  to go into the *Label Editor*. The *Label Editor* shows these items:









#	Name	Description
1	Label View	The <i>Label Editor</i> contains these viewing options: <ul style="list-style-type: none"> <li>• Standard - View, add and edit label elements</li> <li>• Preview - Preview how the label will look when coded.</li> </ul>
2	Max. Code Time	Shows the expected maximum code time in ms.

#	Name	Description
3	Max. Code Speed	Shows the maximum possible line speed in m/min (you can only see this information if the laser coding system is configured for applications that use mark-on-the-fly).
4	Save/Save as/ Send to Code	Save the label design or send it to code.
5	Side Menu	<p>The Side Menu contains these tabs:</p> <ul style="list-style-type: none"> <li>• Element - Add and edit label elements such as text, barcode, graphics and shapes. Change the order of elements if there are more than one. Manage label elements by locking them.</li> <li>• Label - Edit label settings such as shift code tables, script variables, serialisation data and overrides.</li> <li>• Parameter - Manage the laser parameter settings and overrides. It is possible to store local settings in a label. This will override the global system configuration unless the name of the local parameter set is the same as the name of the local parameter set. In this case, go to <i>Global Code Settings &gt; Parameter Sets</i>, select <i>Use local</i> and tick the box next to the parameter set that you want to use. You can use this i.e. to change the laser power or coding speed.</li> </ul>
6	Label Editor Canvas	Area to create the label design.
7	Label Zoom Options	Zoom in and out of the label design.
8	Undo/Redo	Undo or redo the previous action.
9	Element Moving Options	<p>Move elements in the label design area.</p> <ul style="list-style-type: none"> <li>• Drag the elements to move them.</li> <li>• Select display arrow buttons (to move elements more precisely).</li> </ul>







## Create a Label

- (1) Select *Home* > *Label manager* > *New label* .
- (2) Press on the screen within a specific area of the *Label Editor* where you require the item to appear. A cross hair will appear at this location.
- (3) Add label elements (text, barcode, graphics, shapes) from the side menu.
- (4) Select *Save as*.
- (5) Enter a name for the label in the *Name* box.
- (6) Select the location where you want to save your label.
- (7) Select *Save* .







## Add Text

- (1) Select *Home* > *Label manager* > *New label* .
- (2) Press on the screen within a specific area of the *Label Editor* where you require the item to appear. A cross hair will appear at this location.
- (3) Add *Text*  from the side menu and enter the text. You can also use *Text*, *Variable* and *Edit Variable* to enter the text (see Product Manual, "Text Variables", for more information).
- (4) To change text, select the entered text in the *Label Editor* and then the *Edit* icon  from the *Edit* side menu.
- (5) To change text parameters (name, position, font, width, etc.) use the *Edit* side menu.
- (6) To delete an object, select the object and select the delete icon  of the *Edit* side menu.
- (7) Select *Save*  or *Send to code* .





## Add a Barcode

- (1) Select *Home* > *Label manager* > *New label* .
- (2) Press on the screen within a specific area of the *Label Editor* where you require the barcode to appear. A cross hair will appear at this location.
- (3) Add *Barcode*  from the side menu and select the type of barcode needed from the list.
- (4) Use *Text*, *Variable* and *Edit Variable* to enter the barcode data (see Product Manual, "Text Variables", for more information).
- (5) Select  to add the barcode to the label.
- (6) To change the barcode, select the entered barcode in the *Label Editor* and then the *Edit* icon  from the *Edit* side menu.
- (7) To change barcode, use the *Edit* side menu.
- (8) Select *Save*  or *Send to code* .





## Add Graphics

- (1) Select *Home > Label manager > New label* .
- (2) Press on the screen within the specific area of the label preview where you want the graphic to appear. A cross hair will appear at this location.
- (3) Add *Graphics*  from the side menu and select  *Images* to browse for images.
- (4) Select  to add the graphic to the label.
- (5) Select *Save*  or *Send to code* .





## Add a Shape

- (1) Select *Home > Label manager > New label* .
- (2) Press on the screen within the specific area of the label preview where you want the shape to appear. A cross hair will appear at this location.
- (3) Add *Shape*  from the side menu and select Rectangle, Arc or Line from the list.
- (4) Specify the properties of the rectangle, arc or line.
- (5) Select *Save*  or *Send to code* .

## Edit a Shape





- (1) In *Label Manager*, select  to go to the location where your label is stored.
- (2) Select the *Edit* icon  next to the label that you want to edit.
- (3) Select the shape in the label.
- (4) Go to the *Element* side menu.
- (5) Go to the *Edit* tab.
- (6) Change the properties.
- (7) Select *Save*  or *Send to code* .

## Enter Unicode





- (1) Go to *Home > Setup > Label manager > New label* .
- (2) Add *Text*  or *Add Barcode*  from the side menu.
- (3) Select *Unicode*  (when selected, the colour of the icon changes).
- (4) Enter the Unicode value (the top right box will show the character and value):

Common Unicode Characters			
00A3	Pound (Sterling)	20AA	Shekel (Israel)
0024	Dollar (US)	20AB	Dong (Vietnam)

Common Unicode Characters			
00A2	Cent (US)	20A2	Cruzeiro (Brazil)
00A5	Yen (Japan)	20A6	Naira (Nigeria)
20AC	Euro	20A8	Rupee
20A1	Colon (Costa Rica)	20A9	Won (South Korea)

- (5) Select  to add the Unicode character to the label or  to cancel.
- (6) Select *Save*  or *Send to code* .



### Edit a Label

- (1) In *Label manager*, select  to go to the location where your label is stored.
- (2) Select the *Edit* icon  next to the label that you want to edit.
- (3) Select the elements in the label to edit them, or add new elements from the side menu.
- (4) Select *Save*  or *Send to code* .

Operators, supervisors and administrators can send a label to code.

By default, only administrators and supervisors have permission to edit or preview a label.


### Move an Element in a Label

- (1) In *Label manager*, select  to go to the location where your label is stored.
- (2) Select the *Edit* icon  next to the label that you want to edit.
- (3) Select an element in a label by clicking on it.
- (4) Move the element to the desired location.

It is possible to use drag and drop. Select and hold the element in the label and move it to the desired location.

To move elements more precisely, go to the *Element* side menu and select the display arrow buttons (or change the values directly in the X- and Y-axis boxes).

### Send a Label to Code

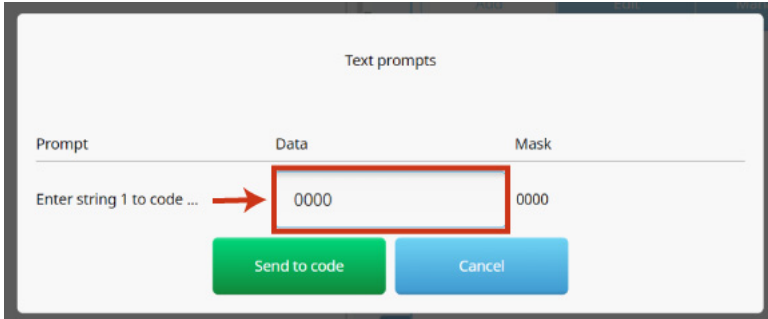
To send a label for coding, select *Send to code* .

## Send a Label to Code - with Prompted Field

Prompted fields are a way to prompt the user to update variable text when the label is loaded.


If a label has a prompted field:

- (1) Enter the necessary variable text data in the correct format into the input field.



Prompt	Data	Mask
Enter string 1 to code ...	0000	0000

Send to code Cancel

- (2) Select *Send to code* .
- (3) Read the Product Manual for more information on prompted fields.

## Enable the Coding Mode

Select the *Start* button at the top of the Home Screen.

## Disable the Coding Mode

Select the *Stop* button at the top of the Home Screen.

## Advanced Label Features


### Add a Variable

It is possible to add local or global variables. Local variables can only be used in the label in which they have been created. Global variables can be used in all labels. You can add variable elements as *text* or *barcode* elements.



You can add and edit these variables:

- Clock
- Counter
- Script Variables (Read the Product Manual for instructions.)
- Reference (Read the Product Manual for instructions.)
- Serialisation (Read the Product Manual for instructions.)
- Shift code (Read the Product Manual for instructions.)
- Link (Read the Product Manual for instructions.)
- Text Variable (Read the Product Manual for instructions.)
- Prompted field (Read the Product Manual for instructions.)



To add a new local variable:

- (1) Go to *Home > Label manager > New label* .
- (2) Add a new text or barcode element.
- (3) Select *+Variable*.
- (4) Select *Insert new*.
- (5) Select *Text variable* to insert a new local variable.


To add a new global variable:

- (1) Go to *Home > Setup > Global code settings*.
- (2) Select *Text variables*.
- (3) Select  to add a global text variable.
- (4) Enter the name and value.
- (5) Go to *Home > Label manager > New label* .
- (6) Add a text or barcode element.
- (7) Select *+Variable*.
- (8) Select *Insert new* to create a link to the new global variable.
- (9) Select *Link*.
- (10) Select the global variable.

### Add a Clock

- (1) Go to *Home > Label manager > New label* .
- (2) Select *Text* or *Barcode* from the side menu.
- (3) Go to the *+Variable* tab.
- (4) Select *Insert new > Clock*.
- (5) Edit the clock settings (Name, Format, Calendar, Language).
- (6) Select the offset parameters (Years, Months, Weeks, Days, Hours, Minutes) and enter them through the keyboard.
- (7) Select the frequency on which the update is based.
- (8) Select  to save.

### Add a Counter

- (1) Go to *Home > Label manager > New label* .
- (2) Select *Text* or *Barcode* from the side menu.
- (3) Go to the *+Variable* tab.
- (4) Select *Insert new > Counter*.
- (5) Enter a name for the counter.

- (6) Select the Format. Select string "N" for numerical and "A" for alpha characters. If you select format "A", you will see a new box: *Alpha field string*. Select here which characters you want to include in your counter.
- (7) Select *At label load*. For loaded labels, you can select to start the Counter at the *Start value*, or at the *Current value*. Use the drop-down list to select.
- (8) Select a *Start value* or *Current value* in the respective boxes. Make sure that the values are in the range between the lower and upper limit.
- (9) In the *Repeat count* box, use the arrows to select the number of items that will be coded before the counter increments.
- (10) In the *Step* box, select the number of count values that will be increased or decreased when the counter counts up or down.
- (11) In the *Increment type* box, select from the drop-down list:

None	No increment/decrement
Code start	The Counter increases with each Product Detect (trigger).
User input (Rising Edge)	If you select <i>Rising Edge</i> , you will see a new box to select the <i>User input</i> (A, B, C or D). <i>Rising Edge</i> means that if a transition from LOW to HIGH level on this input is recognised, the counter gets incremented.
User input (Falling Edge)	If you select <i>Falling Edge</i> , you will see a new box to select the <i>User input</i> (A, B, C or D). <i>Falling Edge</i> means that if a transition from HIGH to LOW level on this input is recognised, the counter gets incremented.

- (12) In the *External reset* box, select from the drop-down list:

None	No reset.
Coding enable	The Counter will reset when entering coding mode.
Application start	The Counter will reset on system boot.

User input (Rising Edge)	If you select Rising Edge, you will see a new box to select the User input (A, B, C or D). Rising Edge means that if a transition from LOW to HIGH level on this input is recognised, the counter gets incremented.
User input (Falling Edge)	If you select Falling Edge, you will see a new box to select the User input (A, B, C or D). Falling Edge means that if a transition from HIGH to LOW level on this input is recognised, the counter gets incremented.

(13) In the *Rollover behaviour* box, select from the drop-down list:

None	No rollover.
Disable	The coding mode gets disabled.
User output	Select a <i>User output</i> (A, B, C or D) which will be set to HIGH when the counter rolls over. It is set to LOW again after the next count-up or count-down.
User output & disable	The coding mode gets disabled and <i>User output</i> (see above) is set.

(14) Select  to save.

## SPECIFICATION

<b>Controller Type</b>	<b>UxCTR 1</b>
IP Rating	IP55
Dimensions (W x H x D) (mm)	430 x 228 x 397
Weight (kg)	16
Cooling	Fan cooled
Operating Temperature (°C)	5 – 40
Environmental Humidity	20 – 80 % non-condensing

<b>Ux-Series Model</b>	<b>UxCTR 1 &amp; Ux360i</b>
Output Power Class (W)	5
Input	100 – 240 VAC 50/60 Hz Max. 12A / 1200 VA Electrical power supply tested from 90 V – 264 V
Laser Type	UV Laser
Code Types	Logos, barcodes, 2D codes, graphics, text
Focal Length (mm)	80; 160; 330; 480
Focal Field (mm x mm)	55 x 55; 100 x 100; 210 x 210; 330 x 330
Scan Head	High Speed (HS)
Laser Head	Stainless steel and hard anodised aluminium construction
Dimensions (mm)*	704 x 160 x 185
Weight (kg)**	22
IP Rating	Controller: IP55 Laser head: IP55***

<b>Ux-Series Model</b>	<b>UxCTR 1 &amp; Ux360i</b>
Operating Temperature (°C)	5 - 40
Environmental Humidity	20 - 80 % non-condensing
Noise (dB[A])	< 80
Cooling	Fan cooled

\* Dimensions measured overall for shortest version.

\*\* Values refer to a system configuration with short mount.

\*\*\* Excluding the cooling section where the fan and heat sink are located. The main laser and electronics area is designed to IP65.

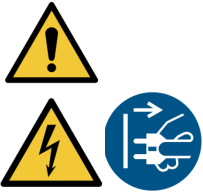
# MAINTENANCE

Maintenance procedures are to be performed by fully trained engineers only.

## REPLACING THE DESICCANT IN THE LASER HEAD

UV laser coding systems have desiccant in the laser head. A service engineer must replace this desiccant once a year. As a result, contact Domino once a year to arrange a service visit.

## CHECKING FANS AND AIR VENTS

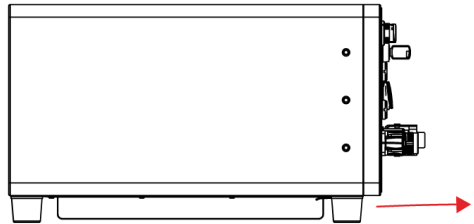
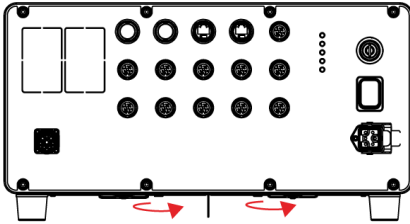
WARNING:	Electricity. Risk of Death.
	<p><b>Set the laser coding system to off and disconnect it from the mains electrical power supply before you do any maintenance on the laser coding system.</b></p>

The fan filters are on a tray at the bottom of the controller. There is a locking mechanism that holds the fan filters and tray in place.

A fan defect immediately poses a danger of overheating that may result in damage to the controller. Check the fans once a month to prevent overheating.


### Controller and Laser Head Fans

- (1) Check the fans for bearing noises. Contact Domino and ask for a replacement of the fan if there is a bearing noise.
- (2) Check the fan filters of the controller for blockages and dirt if necessary.
- (3) Find the fan filter pads. The fan filter pads are on the underside of the controller, inside the filter trays.
- (4) To exchange the fan filter pads, turn the locking mechanism for the filter tray by 180°.
- (5) Pull out the filter tray and replace the fan filter pads, if necessary.






- (6) During the replacement procedure, make sure that the side of the replacement filter pad with the text *TOP DOMINO* points up.
- (7) Reassemble in reverse order.


### Laser Head Air Vents

<b>CAUTION:</b>	<i>Sensitive Material. Risk of Damage to Material.</i>
	<i>Do not use a water jet to clean the air vents.</i>

- (1) Regularly check the air vents for dirt.
  - (2) Clean the air vents when necessary.
- Note: An optional air filter is available which reduces the amount of dirt that accumulates in the air vents.*

### CLEANING THE LENS

<b>WARNING:</b>	<b>Electricity. Risk of Death.</b>
  	<b>Set the laser coding system to off and disconnect it from the mains electrical power supply before you clean the laser coding system or the connected installation.</b>

<b>CAUTION:</b>	<i>Sensitive Material. Risk of Damage to Material.</i>
	<p><i>Do not use compressed air from the installation for cleaning.</i></p> <p><i>Do not use water for cleaning.</i></p> <p>The lenses are not water resistant.</p> <p><i>Clean carefully.</i></p> <p>There is a risk of scratch marks on the lens which will reduce the coding quality.</p>

The lens has a replaceable cover glass. The lens and cover glass must be checked regularly for dust, and if necessary, cleaned with (absolutely clean) compressed air from a can. If the cover glass is damaged, replace it.

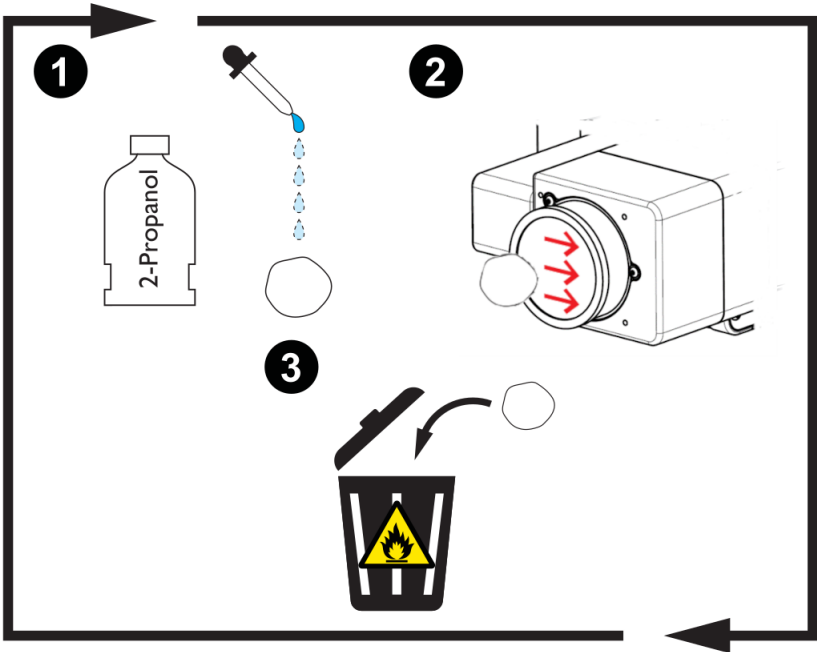
*Note: The interval for checking the lens (daily/weekly/monthly) depends on environmental conditions.*

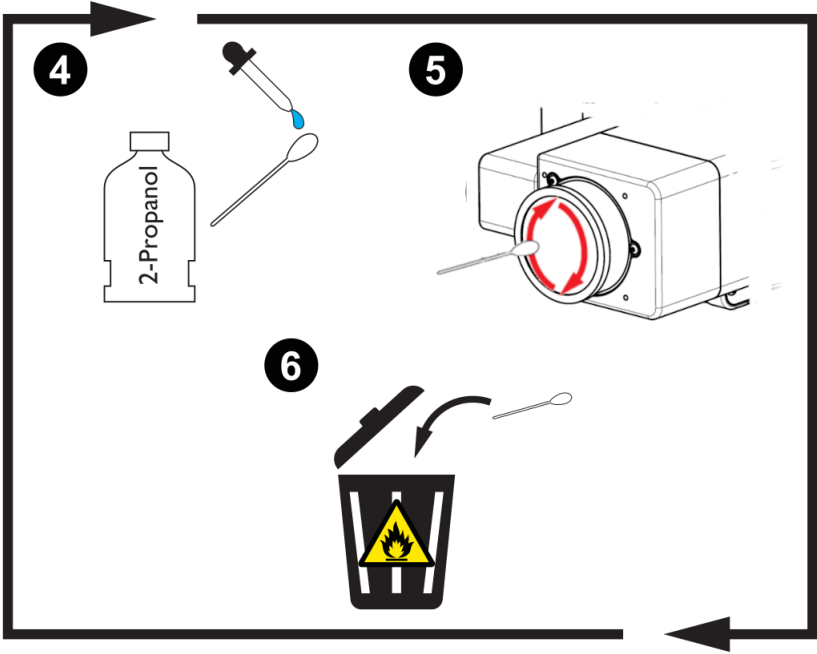
For all other dirt, clean the lens with 99.9 % Isopropyl Alcohol and the Domino lens cleaning tools that are listed below (both are needed):

- EPT033842 - Lens Cleaning Cotton Balls
- EPT033843 - Lens Cleaning Cotton Swabs

To clean the lens:

- (1) Take an unused cotton ball and soak it in Isopropyl Alcohol (2-Propanol).
- (2) Lightly wipe with *ONE PASS ONLY* across the surface of the lens.
- (3) Inspect the cotton ball. If dirt or oil is present, repeat steps (1) to (2).
- (4) Take an unused cotton swab and soak one end in Isopropyl Alcohol (2-Propanol).
- (5) Lightly wipe across the border area of the surface of the lens.
- (6) Inspect the cotton swab. If dirt or oil is present, repeat steps (4) to (5).
- (7) Use an unused cotton swab to lightly wipe excess liquid from the lens.



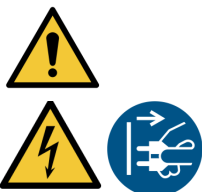


## GENERAL MAINTENANCE

Find more information about maintenance in the Product Manual. Download it from <https://mydomino.domino-printing.com/>.

**Maintenance procedures are to be performed by fully trained engineers only.**

## GENERAL CLEANING

WARNING:	Electricity. Risk of Death.
	<p><b>Set the laser coding system to off and disconnect it from the mains electrical power supply before you clean the laser coding system or the connected installation.</b></p>

Clean the outer surfaces with a damp cloth and a mild cleaning agent only. Make sure that no humidity can get into the laser coding system.

## FAULT FINDING

It can be assumed that the Ux-Series laser coding systems should require no service when properly operated. However, should there ever be a fault, service employees of Domino are at your service. For service assistance, please visit the following website <http://www.dominoprinting.com> and use the Global Map to search for local technical support.

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## Domino Ux-Series User Guide

Domino Printing Sciences plc has a policy of continuous product improvement. The Company therefore reserves the right to modify the specification of any product to which this document refers at any time and without prior 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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