



# R-Series Vision System User Guide

**R150**

**R350**

**R550**

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# **DOMINO R-SERIES VISION SYSTEM USER GUIDE**

This manual Domino Part No. EPT062879 is the official authority for the operation of Domino R-Series Vision System.

It is the instructions for the purposes of the Machinery Directive 2006/42/EC.

The English version is the Original Instructions. It is the source document for all translated versions.

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Domino has a policy of continuous product improvement, the company therefore reserves the right to modify the specification contained in this user guide without notice.

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# EU DECLARATION OF CONFORMITY



- 1 **EU DECLARATION OF CONFORMITY**
- 2 **Manufacturer**  
Domino UK Limited, Trafalgar Way, Bar Hill, Cambridge CB23 8TU, United Kingdom
- 3 **Trademark**  
The Domino trademark logo, which is a stylized arrow pointing right with horizontal lines inside, followed by the word "DOMINO" in a bold, sans-serif font.
- 4 **EU Authorised Representative (person authorised to compile the technical file)**  
Domino Laser GmbH, Fangdieckstrasse 75a, 22547 Hamburg, Germany
- 5 **Product Description**  
Domino R-Series (R150, R350, R550), consisting of an Inspection System and Accessories
- 6 **Model/Type Number(s)**  
EPT062990 R-SERIES CONTROLLER R-VC01
- 7 **We herewith declare under our sole responsibility that the above-mentioned products meet the provisions of the following EU Directives and harmonised standards:**
- 8 **EU Directives**
  - 8.1 2014/35/EU : Low Voltage Directive
  - 8.2 2014/30/EU : EMC Directive.
  - 8.3 2011/65/EU : RoHS Directive, including amending Directive 2015/863
- 9 **Applied harmonised European standards**
  - 9.1 EN 55032:2015+A11:2020
  - 9.2 EN 61326-1:2013
  - 9.3 EN 60204-1:2018
  - 9.4 EN IEC 63000:2018
- 10 **Further applied standards**  
N/A
- 11 **This declaration is valid from the product starting with serial number**  
(Relevant, incrementing serial number part in italic) *2990-0342*
- 12 **Place, Date and legal Signature:**

Cambridge, 03.05.2022

A handwritten signature in black ink, appearing to read "Praba Sivalingham".

Praba Sivalingham  
Global Solutions and Support Director  
Domino UK Limited

for the Manufacturer

Hamburg, 03.05.2022

A handwritten signature in black ink, appearing to read "i.V. M. Pauly".

i.V. Martin Pauly  
Director R&D – Laser,  
Domino Laser GmbH.

for the Authorised Representative

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EN IEC 63000:2018

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(Relevant incrementing serial number part in *italics*) 2990-0342

## 12. Place, Date and legal Signature

Cambridge, 03.05.2022  
Praba Sivalingam  
Global Solutions and Support Director  
Domino UK Limited  
for the Manufacturer

Hamburg, 03.05.2022  
i.V Martin Pauly  
Director R&D - Laser  
Domino Laser GmbH  
for the Authorized Representative

**Document Number:** Doc-0018922\_R04

# UK DECLARATION OF CONFORMITY



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**2 Manufacturer**

Domino UK Limited, Trafalgar Way, Bar Hill, Cambridge CB23 8TU, United Kingdom

**3 Trademark**



**4 UK Authorised Representative (person authorised to compile the technical file)**

N/A

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**6 Model/Type Number(s)**

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**8 UK Statutory Instruments**

- 8.1 The Electrical Equipment (Safety) Regulations 2016 No. 1101
- 8.2 The Electromagnetic Compatibility Regulations 2016 No.1091
- 8.3 The Restriction of the Use of Certain Hazardous Substances in Electrical Equipment Regulations 2012 No. 3032

**9 Applied UK designated standards**

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- 9.2 EN 61326-1:2013
- 9.3 EN 60204-1:2018
- 9.4 EN IEC 63000:2018

**10 Further applied standards**

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Praba Sivalingam  
Global Solutions and Support Director  
Domino UK Limited

for the Manufacturer

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**EN 60204-1:2006-1:2018**

**EN IEC 63000:2018**

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## 11. This declaration is valid from the product starting with serial number

(Relevant incrementing serial number part in *italic*) 2990-0342

## 12. Place, Date and legal Signature

Cambridge, 03.05.2022

Praba Sivalingam

Global Solutions and Support Director

Domino UK Limited

for the Manufacturer

**Document Number:** Doc-0023155\_R01

## **INTENDED USE**


The R-Series Vision System is used on a production line with a printer to inspect code quality on packs, labels and products. It provides a quality inspection result and can control devices for the removal of products with faulty codes.


## **TARGET AUDIENCE**

This document cover the basic safety information and operation. It is aimed at operators of this equipment. Domino recommends that all operators receive product training before operating the equipment.

Keep these instructions for future reference.

## PRODUCT/BATTERY END OF LIFE

<b>WARNING: Flammable Material. Risk of Fire or Explosion</b>	
	<ul style="list-style-type: none"><li>Do not dispose the battery in a fire, hot oven, by mechanically crushing or cutting. Obey local waste regulations when recycling batteries.</li><li>Do not store or leave the battery in high or low extremes of temperature or at low air pressure at high altitude.</li></ul>

<b>CAUTION: Hazardous Material. Risk of damage to equipment and environment</b>	
	Some batteries are not removable. If the battery needs replacement, replace the PCB that the battery is installed on. Obey local waste regulations when recycling the battery and PCB.

Recycling information in accordance with the EU and UK WEEE and Battery Directives  
If you are recycling a Domino product and are located within Europe (EEA and UK) you need to have our products recycled within the terms of the WEEE and Battery Directive.



Product mark



Battery mark


The product/battery is marked with one of the above recycling symbols.


By the end of life the product/battery must be recycled separately at an appropriate recycling collection point.

For more information or guidance, please visit the Domino Environmental Protection Web page: (<https://www.domino-printing.com/en-gb/legal-and-ip/european-compliance.aspx>) or please e-mail: [environmental-protection@domino-printing.com](mailto:environmental-protection@domino-printing.com).

## WARNINGS, CAUTIONS AND NOTES DEFINITIONS

The Warnings, Cautions and Notes used throughout this manual are highlighted by use of international hazard symbols. The following definitions of all three notices are shown below in the way that they are presented in the manual.

<b>WARNING: Hazard..., Risk of...</b>	
	A warning is used to alert the reader to possible hazards which may cause loss of life, physical injury or ill health. It includes information on how to avoid the hazard.

<b>CAUTION: Risk of...</b>	
	A Caution is used to alert the reader to possible risks which may cause damage to equipment or the environment. It includes information on how to avoid the risk.

*Note: Highlights related information.*

## SYMBOLS

The following symbols are used in this manual. Where they appear next to a procedure or instruction they are equivalent to a written warning or instruction



Disconnect power before carrying out maintenance or repair.



Equipment must be Earthed.



Only trained personnel may carry out this procedure.



Danger of electric shock.



Risk of fire.



Observe precautions for handling electrostatic sensitive devices.

## EMC STATEMENT

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.


## FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communication Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

# HEALTH AND SAFETY

<b>WARNING: Industrial Equipment. Risk of Injury</b>	
	Always read the safety precautions in the User Guide before operating this equipment.

## General

The following safety instructions concern all work carried out on the vision system as well as in the area close to the vision system. Local restrictions concerning the specific factory should be taken into consideration.

In particular, users must be familiar with all warning signs and safety procedures.

## Associated Equipment

In addition to the illustrated hazards it must be noted that associated equipment could move during the operation of the supplied vision system. Precautions must be taken to prevent personnel and clothing becoming caught during these operating procedures.

## Heat Sink

The vision system controller heat sink may become hot during operation. Adequate extra ventilation should be considered if the controller is to be located in a sealed environment.

## Cables

All cables associated with the equipment must be safely routed and secured so as not to present a trip or trap hazard.

## Risk Assessment



It remains the responsibility of the customer to perform a Risk Assessment on the printing equipment installed. Domino can assist where necessary.

## Additional Information

Information given in this document should be used in conjunction with the OEM manuals supplied with the equipment.

## Electrical Hazards

### System Controller

<b>WARNING: Danger of electrocution.</b>	
 	<ul style="list-style-type: none"><li>• The R-Series Vision System Controller is powered by a brick PSU. Any isolator switch must be in easy reach of the operator.</li><li>• No user serviceable parts are inside the R-Series vision system controller or the inspection system and therefore they must not be opened.</li></ul>

## SPECIFICATION

Temperature Range Working:	5 to 45°C
Controller IP rating:	IP20 <i>Note: The controller must be located in a suitable environment compatible with the IP rating.</i>
Dimensions:	20mm (W) x 114mm (L) x (D) 47mm (D)
Standard Finish:	Aluminium
Weight:	0.68Kg
Temperature range (Storage):	-40 to 85°C
Humidity (Operating):	5 to 90% RH
Electrical Supply:	Refer to details on <a href="#">page 13</a> .

*Note: The controller and the inspection system contain no user serviceable components and should not be opened.*

## Power Supply Specification

The R-Series is powered by an external power supply, Domino part number EPT063186. This is the only approved power source.

To prevent damage, shock and fire, only use this specified power supply.

The AC Input to the power supply is as follows:

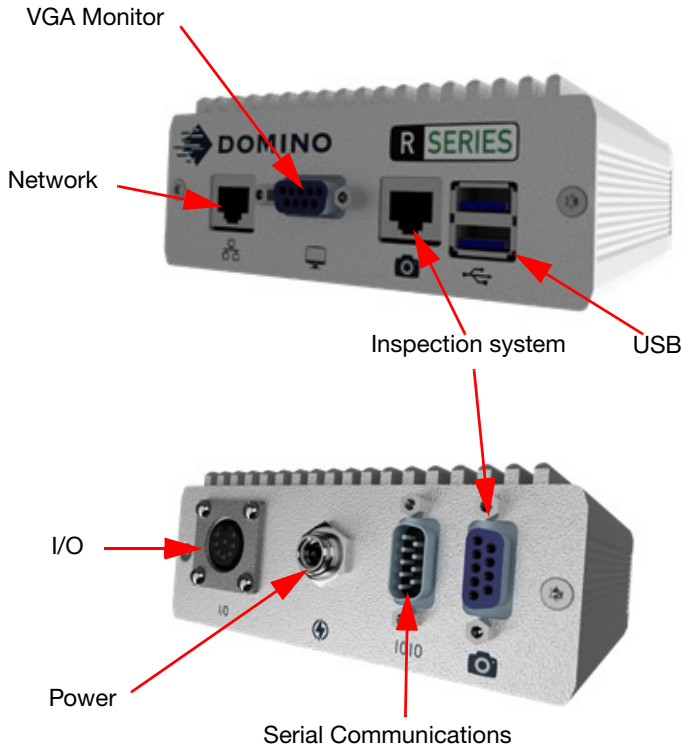
Voltage:	110 - 240 VAC
Current:	1.4 Amp maximum
Frequency:	50 - 60 Hz

Ensure that the power supply is connected to a correctly grounded socket outlet with the appropriate/certified mains cable for the country the R-Series is being operated in.

## NORMAL OPERATION

The R-Series Vision System user interface may be run from a VGA monitor with keyboard and mouse or a touch screen.

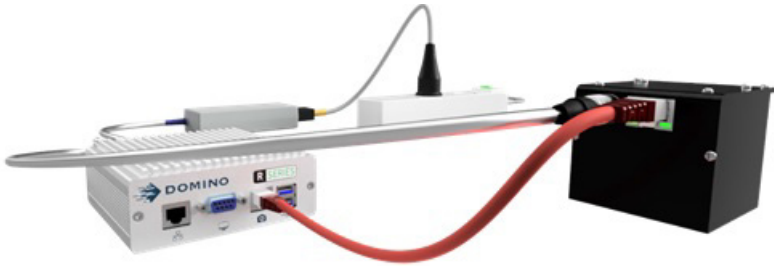
### System Connections



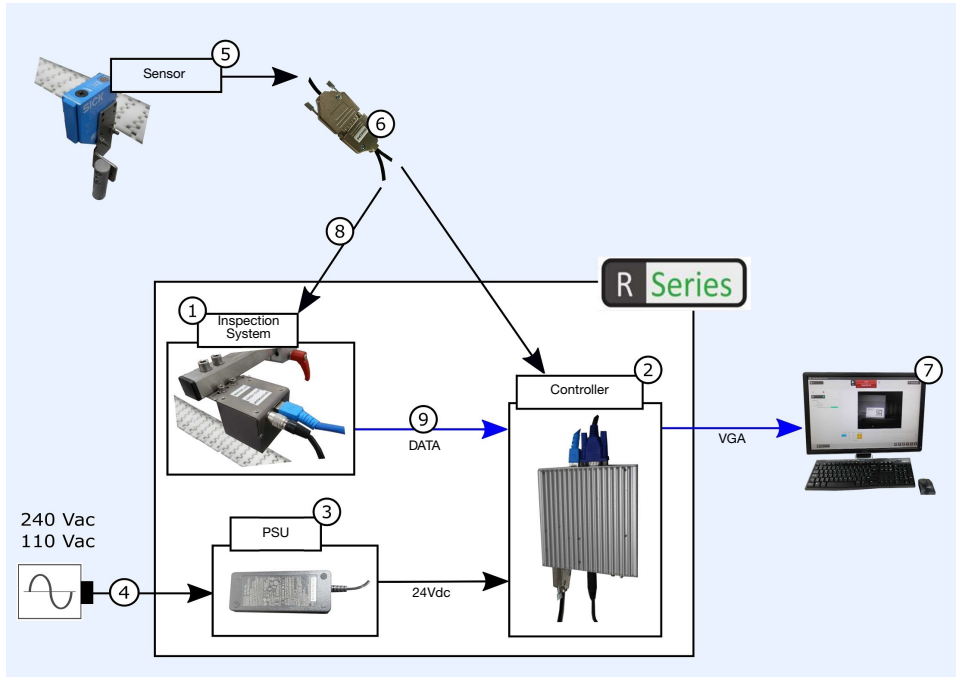
Inspection system



Power



## Connection Schematic



### Supplied:

- (1) Inspection System
  - (2) Controller
  - (3) Power supply unit (PSU)\*
- \* PSU available separately. See [page 13](#).
- (8) Inspection system trigger cable
  - (9) Inspection system Ethernet cable.

### Not Supplied:

- (4) IEC Mains Lead
- (5) NPN Sensor
- (6) 15 way male D-Sub. Use EPT009919
- (7) Touch monitor and mouse.

*Note: The system will only work with NPN sensors. Refer to the Engineer's reference document for PNP sensor configuration details if required.*

## Preparing the R-Series Vision System

- (1) Apply power to the power socket on the R-Series controller using the 24V power supply provided.
  - The LED indicators on the Ethernet connections will start to flash.
  - After a boot up phase (up to 1 minute approximately) the user interface will be displayed on the monitor. The Domino Vision software application will auto-start and the *User Login* panel will become available.

Should the application not Auto start:

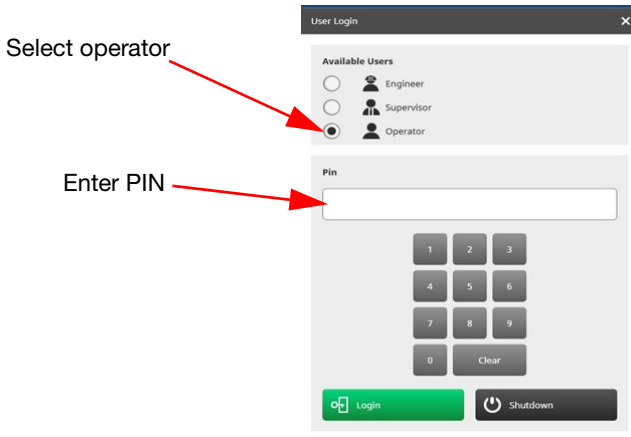
- (2) Select from the desktop, the R-Series icon, and double click it



*Note: If the unit does NOT start after 5 minutes then remove power wait 1 minute and then re-apply power then repeat the above steps.*

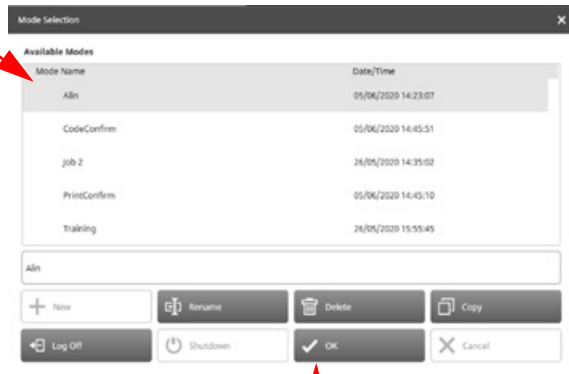
## User Login

- (1) Select *Operator*, and enter your PIN. (Default is 1234), Select *Login*.
- (2) The Mode Select screen will be displayed.



A list of Modes or jobs will be displayed. These would have been previously setup by an engineer.

Select Mode



Select OK

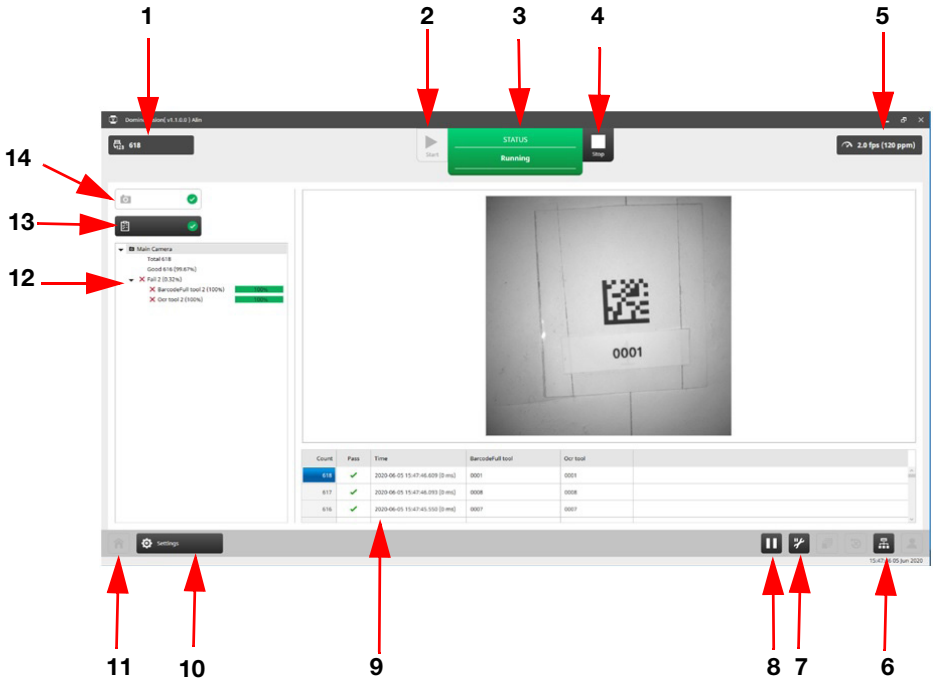
- (3) Select the Mode that you wish to run, and then select OK. The Mode will be loaded and the Run screen is then displayed.

*Note: The inspection system screen may show as blank after first switch on. This is normal as the inspection system is waiting to be triggered by a sensor or external source.*

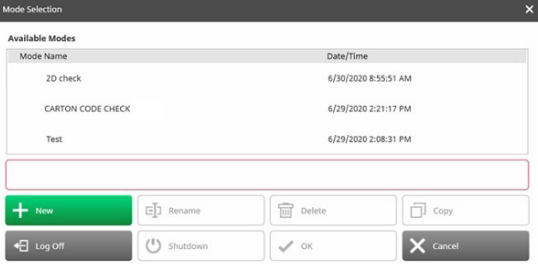
- (4) Start the production line OR press Play on the start of the I/O control.

*Note: The Play or Stop button is only effective if the vision system I/O is connected to the production line.*

# Interface Description



(1)	Information Bar	Operating information such as total products detected.
(2)	Start	The <i>Play</i> button will activate the I/O control to allow the line to RUN
(3)	Status Tabs	Status of the I/O control: <ul style="list-style-type: none"> <li>• GREEN when running after the Play button selected</li> <li>• RED in Manual.</li> </ul>
(4)	Stop	The Stop button will deactivate the I/O control.
(5)	Information bar	Displays frames per second (FPS) and Products per minute (PPM) information.

(6)	Network Connection	Displays external connection of the Network if connected. If not connected it will report that no connections are set up (this connection does not apply to the inspection system connection).
(7)	Pause Settings	Set up the pause conditions.
(8)	Pause	Pause the image and the result log.
(9)	Result Log	Rolling display of the result for each inspection.
(10)	Settings	Press the Settings button to modify the area of inspection.
(11)	Home	Press HOME to return to the home screen.
(12)	Inspection information	Summary information for each inspection tool.
(13)	Job Information	Displays summary report of inspection job.
(14)	Inspection system	Displays inspection system image and inspection information.
(15)	Mode Selection (Not displayed)	In operator mode this allows for new jobs to be selected and allows the exit of the program. 

## Log Files

Log files can be found at:

*C:\Users\Public\Documents\MultiScan3\logs*

The files are date stamped and contain addition useful information for fault finding.

## Shut Down

- (1) Press the *Stop* button on the I/O control. This may stop the line depending on configuration
- (2) Press the *Mode Selection* button.



- (3) Select *Log Off*.

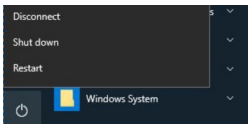


This will allow access to the *user log in* Window.

- (4) Press *Shut down*. This will close the program.



- (5) Perform a normal Windows shut down.



- (6) Wait for the screen to go blank. Power can be removed from the system.

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## Domino R-Series Vision System User Guide

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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