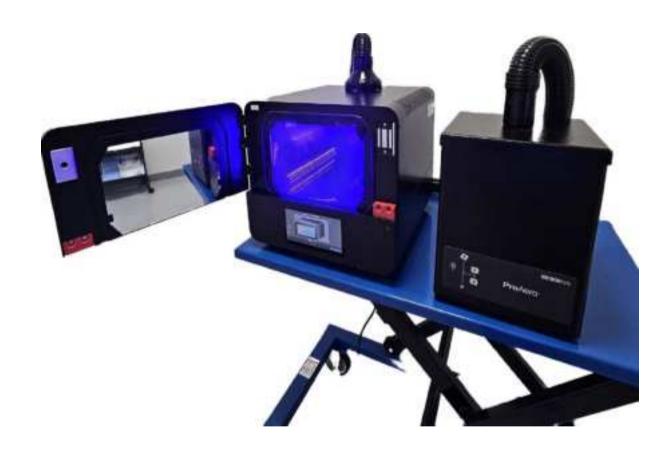
## **Product Guide**





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Customer acknowledges the contents of this document and that Stratasys parts, materials, and supplies are subject to its standard terms and conditions, available on <a href="http://www.stratasys.com/legal/terms-and-conditions-of-sale">http://www.stratasys.com/legal/terms-and-conditions-of-sale</a>, which are incorporated herein by reference.

The specifications and/or information on which this document is based are subject to change without notice.

### **FCC Compliance**

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

**NOTE:** Stratasys is not responsible for radio or TV interference caused by unauthorized modification to this equipment. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Stratasys contact information is available from the **Stratasys Support Center**.



### **Declaration of Conformity**

The manufacturer, Dymax, declares under its sole responsibility that the appliance meets the requirements laid down in:

2014/30/EU Directive (Electromagnetic Compatibility Directive)

2014/35/EU Directive (Low Voltage Directive)

### **Technical Reference Standards**

EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction.

ISO 3746 Sound level certification.

UL 61010-1

CSA C22.2#61010-1-12

IEC 61010-1: Safety requirements for electrical equipment for measurement,

control, and laboratory use; general requirements

### **Equipment Recycling**



In the European Union, this symbol indicates that when the last user wishes to discard a product, it must be sent to appropriate facilities for recovery and recycling. For information about proper disposal, check your purchase contract, or contact the supplier of the equipment.

### **Technical Service**

If problems arise with this system please contact Stratasys Customer Support. Contact information is available from the Stratasys website at:

http://www.stratasys.com/customer-support/contact-customer-support.

For comments on this guide: c-support@stratasys.com



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## Introduction to this Guide

### Intended Use

The appliance is designed for professional use in post-processing of 3D-printed parts. It is intended for use by trained operators as specified below.

### Reasonable Misuse

The appliance is designed for professional use in a laboratory: any other type of use is forbidden.

Any action not complying with the directions contained within this guide will be considered a way to reasonably misuse the Origin Cure.

The appliance is intended for use in the 3D printing post-processing field. Installation and use must be carried out according to instructions.

The manufacturer, Dymax and distributer, Stratasys, will not be liable for damage or failures resulting from different or improper use.

## **User Groups and Qualifications**

### **Operator**

Operators are people who have been trained to-

- Physically install and use the Origin Cure during normal operation.
- · Service and troubleshoot the system.

They must read and understand the user guide as well as any attached instructions, safety instructions, etc.



## Safety

Serious injury can result from exposure to high-intensity UV light. To reduce the risk of injury, operators should read and understand the Dymax UV Light Safety Guide, SAF001 before assembling and attempting to operate the Origin Cure.

To use this system safely, it must be set up and operated in accordance with the instructions given in this guide. Stratasys assumes no liability for any changes that may impair the protection of the system. This device falls under IEC 62471 Risk Group 3 for UVA and Blue Light emissions.

### **Hazard Types**

Below are safety-related symbols used on the Origin Cure and referred to within this manual.



### Warning: [type of hazard]

Refers dangerous situations which will result in death or severe injury. Refer to this guide before proceeding when this symbol is displayed on the system.



#### Caution:

Refers to a possibly harmful situation. If not avoided, damage could be caused to the system or its environment. Refer to this guide before proceeding when this symbol is displayed on the system.



UV can be emitted from this product. avoid eye and skin exposure to unshielded UV light. To prevent eye injury from ultra-violet energy, always wear UV-blocking protective goggles or a face shield when working with or near the cure chamber. Long-sleeved shirts or a lab coat are also recommended to protect the arms and use of UV-opaque gloves will protect the hands.



There is risk of electrical shock if the cover is removed.



Cover may be warm to the touch when the system is in operation.



### **Hazardous Situations During Use**

### Warning: UV Radiation hazard

While curing is in progress, high intensity ultra-violet light radiated onto body parts can cause injury. Do not activate the unit if the shielding is not in place.

### Warning: Hot Surface hazard

The top surface includes air vents that release hot air from the unit. Take care not to position body parts onto the top surface while the unit is active.

### Warning: Electrical hazards

- 1. Contact with live circuits could cause serious electric shock. Do not access the lower chamber cover unless you have been authorized to carry out electrical work.
- 2. Contact with live circuits could cause serious electric shock. Always disconnect the system from the main power supply before servicing.
- Connecting the system to an incompatible power source could result in serious electric shock. Verify that the voltage indicated on the rating plate corresponds to that supplied by the mains.
- 4. Operating the system when it is malfunctioning or damaged could result in serious electric shock. If the system cannot be used safely, unplug it from the power source and make sure that it cannot be powered.
- Connecting components that have not been approved by the manufacturer could result in serious electric shock. Only connect components that have been approved by the manufacturer.
- 6. Contact between liquids and live circuits could result serious electric shock.
  - Clean the appliance only with a dry or slightly dampened cloth.
  - · Never use solvents.
- 7. If liquid is spilled in the working compartment, unplug the appliance and dry.



#### Residual Risks

Residual risks are those that remain after all possible measures have been taken to eliminate them. Residual risks include the following:

### Warning: Eye Contact hazard

Uncured materials are hazardous if they touch the eyes. Before handling uncured parts, put on protective eyewear as specified in the material safety data sheet.

### Warning: Skin Contact hazard

Uncured materials are hazardous if they touch the skin. Before handling uncured parts, put on protective gloves and a lab coat as specified in the material safety data sheet.

### **Emergency Situations**

In the event of an emergency or breakdown, do the following:

- Assess the danger and sources of danger associated with the accident or breakdown
- · Turn the power switch off.
- Assess the extent of the damage.
- Contact emergency services in the event of serious accidents.
- Where appropriate, remove guards to facilitate access to the area and the injured personnel. Identify potential dangers associated with the removal of these e.g. sharp objects, components etc.



## Warning and Information Labels

The following labels appear on the Origin Cure.

Figure 1: Origin Cure nameplate



Figure 2: UV hazard label



Figure 3: Lifting hazard





# System Overview

The Origin Cure is a 3D printing post process UV Led curing chamber designed to be paired with the Stratasys Origin series 3D printers. The Origin Cure provides 360 degree curing by using mirrored panels with UV LEDs built into the side walls. The control and power unit are fully integrated into the unit. A full function touch screen HMI is included on the front of the unit for convenient control of all operations. The curing chamber door includes a safety feature which uses a magnetic lock which prevents the door from being opened when the unit is conducting a curing operation.

The main parts of the Origin Cure are shown below.

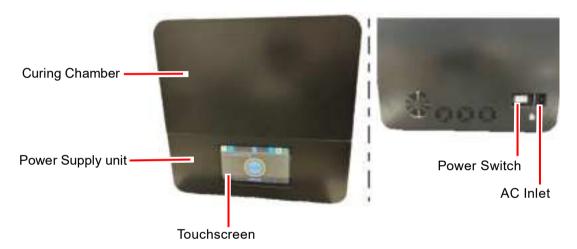


Figure 4: Origin Cure front/back

- Curing chamber—the chamber in which parts are cured
- UV Power Supply—the unit that generates power for the UV lamps inside the curing chamber
- 5" HMI Touchscreen display interface that provides all necessary controls and displayed information to interact with the Origin Cure
- AC Inlet power input requiring 20 Amp power that supplies 100-240VAC@50-60Hz
- Power Switch Main power (ON/OFF) switch
- SD Card (Not Shown) An external SD card can be inserted into a slot normally covered by the closed curing chamber door, above the touchscreen to load programs into memory.



### **Dimensions**

Table 1: Origin Cure sizes and weights

W x H x D (cm)	W x H x D (inch)	Weight Kg (lb)
41 x 43 x 45	16.1 x 16.9 x 17.7	36.7 (81)

## **Electrical Specifications**

Main power supply (inlet): 100-240 VAC; 50/60 Hz, 20 Amp

## **Physical Description**

The Origin Cure is a table-mounted, lab-grade device. The main assemblies are the body, the curing chamber, the touchscreen, and the power/data input panel.

## Theory of Operation

The Origin Cure runs programmed curing recipes. The user places parts on a quartz tray in the curing chamber, closes the door, then selects the recipe to run. Recipes include varying ramp times and intensity levels for the three active UV wavelengths: 365nm, 385nm and 405nm. Once the recipe cycle is complete, the part is fully cured and the operator removes it from the chamber.



# Site Preparation

## Shipping Information and Customer Responsibility

Shipment to the customer will be arranged by a Stratasys distributor as indicated in the "ship to" part of the invoice. The customer is responsible for providing detailed delivery information.

The customer is responsible for transporting the system to a suitable installation site, and for unloading, unpacking, and moving it to its final location. Upon request, your Stratasys service provider will advise regarding these matters.

## **Positioning**

To ensure proper operation and optimized performance, installation of the Origin Cure requires that the unit be placed on a horizontal, solid surface and located in an area of unrestricted airflow, such as an open counter. Over-heating of the unit can lead to temperature alarms and or accelerated Led degradation.

Be sure to provide at least 15 cm (6 in) of open space clearance around the unit when positioning multiple units or some other type of hot exhaust producing device.

The following table shows the size and weight of the unit.

Table 1: Size and weight of Unit

	W x Hx D (inch)	
41 x 43 x 45	16.1 x 16.9 x 17.7	36.7kg/81 lbs



## **Electrical Requirements**

The customer is responsible for ensuring that all tasks described in this section are performed by authorized personnel.

A stable, reliable source of power is required. Power to the unit should be supplied directly from the main electrical panel. Other electrical outlets should not be connected to the line.

### **Rating**

Voltage: 100-240 VAC Frequency: 50/60 Hz

Maximum current: 20 Amp

Power: 1920 W

### **Power Switch**

It is the customer's responsibility to ensure that the power line is equipped with a main ON/OFF switch, along with a differential thermo-magnetic circuit breaker and fuses.

### Grounding

It is the customer's responsibility to ensure that the power line includes a ground connection and guarantees the specified power, voltage and frequency.



### **Environmental Conditions**

### **Temperature and Humidity**

The appliance is intended for indoor use, only. The temperature and relative humidity around the system must be maintained within certain limits. For best performance, the Origin Cure should have a controlled room temperature with ambient air of approximately 23°C. The room temperature and relative humidity should not exceed the limits listed in the table below.

Table 2: Ambient conditions

Condition	Range
Temperature	10°C to 40°C (50°F to 104°F)
Relative humidity	0 - 80% relative humidity, non-condensing (recommended: 30% RH)
Maximum altitude	2000 meters (6562 Ft)

## Storage and Disposal

The unit should be stored indoors, in a dry area with adequate ventilation. The following table lists general requirements for storage.

Table 3: Storage conditions

	Range
Temperature	0°C to 40°C (32°F to 104°F)
Relative humidity	0 - 80% relative humidity, non-condensing (recommended: 30% RH)

When the unit has reached end-of-life, make sure that it is disposed in accordance with all local regulations.



## Consumables and Equipment Provided by the Customer

### **Eyewash Station**

It is recommended to install an eyewash station near the system, for emergency use.

### **Personal Protective Equipment**

The following protective equipment should be available:

- · Protective gown
- UV Safety glasses
- Protective gloves (natural rubber or Nitrile rubber)



## Installation

## Unpacking

Upon arrival, inspect all Origin Cure boxes for damage and notify the shipper of box damage immediately. Open each box and check for equipment damage. If parts are damaged, contact Stratasys to ensure that new parts can be shipped to you immediately.

Unpack the Origin Cure components and remove all packaging from the installation area.



Store the packaging for reuse in the event that you need to transport the system elsewhere.

Inspect the glass for any damage or residue on the surface. Carefully clean the glass with the alcohol swab. Take care not to touch the glass with bare hands, as any residue left on the window can adversely affect curing performance.

## **Operational Location**

1. Lift the unit and place it on an elevated surface as specified in "Positioning" (page 10).



### Warning: Lifting Hazard

The unit weighs 36.7 Kg (81 lbs) and could cause injury if lifted improperly. Employ safe lifting techniques.

- 2. Verify that there is at least 15 cm (6 in) space around the Origin Cure.
- 3. Verify that you can easily remove the tray.

## **Utilities**

### **Power Supply**

- 1. Verify that the power switch is turned off.
- 2. Insert the main power supply cable into the **power** socket.
- 3. Plug the main power supply cable into the wall socket.

### Activation

Turn On the power switch.



## **Touchscreen Overview**

The five-inch HMI touchscreen interface provides all necessary controls and displayed information to interact with the Origin Cure. This section provides a simulated view of all available display icons and touch-selectable-button functions. More detailed information of each function and all operational modes and menus is given in the following sections.



For ease of reading and simplicity, all button icons will be shown against a white background instead of the actual black background.

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Figure 1: Origin Cure Touchscreen Functional View

Number	Function Description
1	Opens the Alarm page. Green indicates that there are no current alarms.
2	Opens the Information page.
3	Opens the Monitor page. Administrator state only.
4	Opens the Configuration page. Indicates the current mode status:  Manual or Timed
5	Opens the Settings page.
6	Opens the PIN page to change between normal and administrator states.



Number	Function Description
7	Displays the current date and time.
8	Displays the total program time when running from a program. Black indicates Stopped. Green indicates Running.
9	Starts or Stops the curing process. Green indicates that curing is active and LEDs are ON. Red indicates that curing is stopped and LEDs are OFF.
10	Opens the Configuration page to modify the power level for individual wavelength (0 - 100%). <b>Administrator state only.</b>
11	Opens the Configuration page to modify the delay time for individual wavelength. <b>Administrator state only.</b>
12	Opens the Configuration page to modify the exposure time for individual wavelength. Black indicates Stopped. Yellow indicates Pending. Green indicates Running. <b>Administrator state only.</b>
13	Opens the Programs page. Displays the current loaded program.

# Powering ON - Touchscreen Display Sequence

When the power switch on the back of the Origin Cure is set to the ON position, the HMI display will illuminate and display the Stratasys splash screen while the system performs self tests. When the self-tests have completed, the touchscreen will display the Check Complete screen.



Figure 2: Check Complete Screen

The screen will then transition to the User State and into the last known operating state.



# Set Up Configuration



### Warning: UV Radiation Hazard

In this section the Origin Cure will be energized. If the LEDs are commanded to start and there are no alarms, it will be possible to turn on the UV light inside the chamber. Always wear protective goggles or a face shield when working with UV light.

## **Accessibility States**

The Origin Cure has two accessibility states:

- User State (Default): When in the User State, the touchscreen interface will display the green lock icon. The operator is not allowed to make any changes to the settings of the 3D Chamber, they are only allowed to operate the unit by pressing the Start/Stop button while in Manual Mode or Timed Mode for predefined curing programs.
- Administrator State: In the Administrator State, the touchscreen interface will display the
  red unlocked icon. The operator is allowed make any changes that are administrator level
  accessible such as modifying the power level, exposure time, Program Load, Calibration,
  etc.

### **Switching Between the User State and Administrator State**

#### **Procedure**

- 1. Following a successful startup, the Origin Cure will transition into the User State and its last known operational mode.
- 2. From the touchscreen interface, select the green lock icon and type in the correct PIN. Select **Enter**.



The default PIN is 0000. The PIN can be changed within User Actions.



Figure 3: Entering the PIN



### **Accessibility States**

3. If the correct PIN has been entered, the Controller will transition to the Administrator State (unlocked - icon is red).

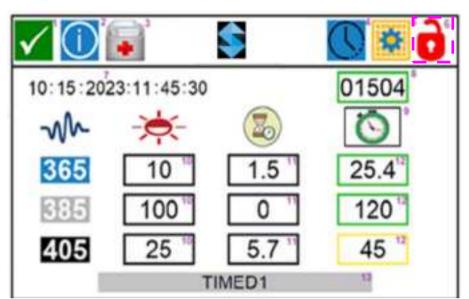


Figure 4: Touchscreen Display in Administrator State (Red Lock Icon)

4. To switch back to the User State (locked - icon is green), select the red lock icon on the touchscreen display. When you transition from Administrator to User, the PIN is not required.



## **Operating Modes**

When the Origin Cure is powered ON and in the Administrator State, it is possible for the controller to be in one of two operating modes: Manual or Timed.

### **Switching Between Operating Modes**

To switch between the operating modes, select the Mode icon (Figure 7) to enter the Configuration page. From the bottom of the Configuration page (Figure 8) select the Mode icon again to toggle between operating modes:



Figure 5: Touchscreen Display Mode Icon (Timed)

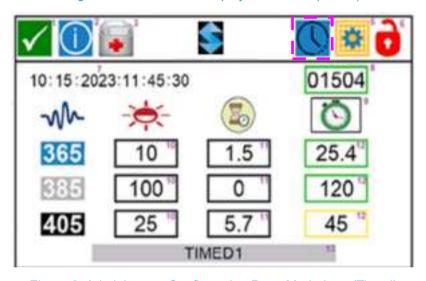
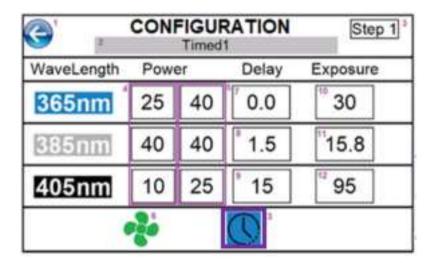


Figure 6: Administrator Configuration Page Mode Icon (Timed)





### **Operating in Manual Mode**

In Manual Mode, selecting **Start** from the touchscreen interface will energize the LED string after any delay time that was set has expired. The LED strings will be energized based on the power level that is set for each wavelength. If a wavelength has the power set to zero, that wavelength is disabled. Green borders around the individual exposure time counter or the total program time counter indicates that wavelength is active. A black border around the individual exposure time counter or the total program counter indicates that wavelength is not active.

#### **Administrator State**

- 1. With the Origin Cure in Manual Mode and unlocked, select **Mode** (Figure 9) to enter the Configuration page (Figure 10).
- 2. In the Configuration page, set the power and delay as needed for each wavelength.
- 3. Press the blue back arrow on the top left of the screen to exit the Configuration page. The settings will automatically be saved.
- 4. Select **Start** to activate the UV LEDs and run the current configuration. The UV LEDs will be energized until **Stop** is selected. The individual wavelength exposure timers will count up until **Stop** is selected.

#### **User State**

In User State no configuration changes are allowed. The operator can only select **Start** or **Stop** to run or stop the current configuration.

Figure 7: Touchscreen Display, Manual Mode

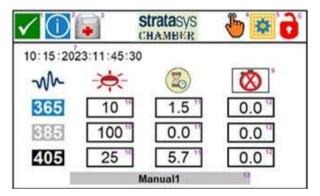
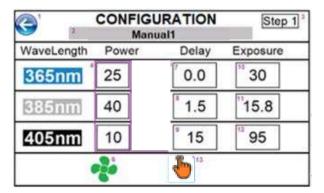


Figure 8: Administrator Configuration Page, Manual Mode





### **Operating in Timed Mode**

In Timed Mode, the required exposure time for each individual wavelength must first be set by the Administrator. Selecting **Start** from the touchscreen interface will energize the LED string after any delay time that was set has expired. The total program time counter will count down based on the overall program time and the individual wavelength exposure timers will count down based on their individual setting. The LED strings will be energized based on the power level that is set for each wavelength. If a wavelength has the power set to zero, that wavelength is disabled. Green borders around the individual exposure time counter or the total program time counter indicates that wavelength is active. A black border around the individual exposure time counter or the total program counter indicates that wavelength is not active.

#### **Administrator State**

- 1. With the Origin Cure in Manual Mode and unlocked, select **Mode** (Figure 9) to enter the Configuration page (Figure 10).
- 2. In the Configuration page, set the start and stop power for each wavelength.
- 3. Set the delay and exposure time as needed for each wavelength.
- 4. Press the blue back arrow on the top left of the screen to exit the Configuration page. The settings will automatically be saved.
- 5. Select **Start** to activate the UV LEDs and run the current configuration. The UV LEDs will be energized until the timers run out or **Stop** is selected.

#### **User State**

In User State no configuration changes are allowed. The operator can only select **Start** or **Stop** to run or stop the current configuration.

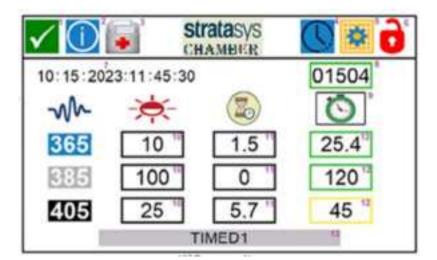
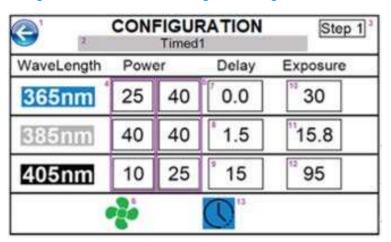


Figure 9: Touchscreen Display, Timed Mode



### **Operating Modes**

Figure 10: Administrator Configuration Page, Timed Mode





## Working with Programs

### **Custom Programs**

While in the Administrator State, custom programs can be loaded or saved within the Programs page.

### Loading

- 1. Make sure that you are in the Administrator State. See "Accessibility States" (page 17).
- 2. Select the current program name at the bottom of the Home screen to enter the Programs page.
- 3. Select/highlight the desired program from the Custom list. See Figure 13.
- 4. Press Load.

### Saving

- 1. Make sure that you are in the Administrator State. See "Accessibility States" (page 17).
- 2. From the Home page and the Configuration page, set the desired operating mode, power level, delay time and exposure time.
- 3. Select the current program name at the bottom of the Home screen to enter the Programs page. See Figure 13.
- 4. Press Save.
- 5. Type in a filename using the on-screen keyboard and press Enter. See Figure 14.

Figure 11: Programs Page, Custom List



Figure 12: On-Screen Keyboard





### **Published Programs**

While in the Administrator State, published programs can be saved from an SD card within the Programs page.

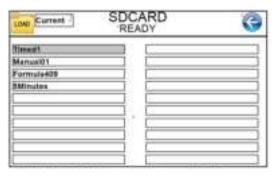
### **Saving from SD**

- 1. Make sure that you are in the Administrator State. See "Accessibility States" (page 17).
- 2. Select the current program name at the bottom of the Home screen to enter the Programs page. See Figure 15.
- 3. Select the SD card icon to enter the SD card ready page. See Figure 16.
- 4. Select PB1 from the destination pull-down menu.
- 5. Select/highlight the desired program (i.e: Timed1) and press Load.
- 6. Press the blue back arrow to return to the Programs page.
- 7. Confirm that the desired program name has been added to the list of published programs on the right side of the screen. See Figure 15.

Figure 13: Programs Page, Published List



Figure 14: SD Card Ready Page





## System Screens

### **Settings Page**

The Settings page can be entered by pressing on the Home page gear icon while in the User State or the Administrator State.

#### **User State**

In the User State, screen brightness and volume are the only adjustable settings. Both can be adjusted by pressing along the slider or dragging the dot to the desired setting.

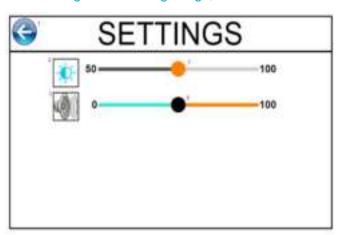


Figure 15: Settings Page, User State

#### **Administrator State**

In the Administrator State, the operator can adjust settings for **screen brightness**, **volume**, **date/time** and **PIN**. In addition an operator may perform **calibration** from this page.

 Screen brightness and volume can be adjusted by pressing along the slider or dragging the dot to the desired setting.

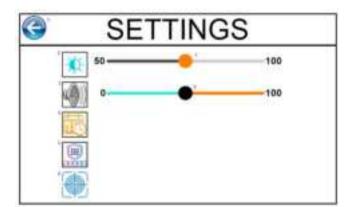


Figure 16: Settings Page, Administrator State



### **System Screens**

• To modify the **date** and **time**, press the date/time icon to enter the Set Date/Time page. Type in the month, day, year, hours, minutes and seconds as required and press **Enter**.



Figure 17: Set Date/Time Page

 To change the PIN, press the shield icon to enter the PIN change page. Type in the new PIN (4 digits) and press Enter.



Figure 18: Change PIN page

To calibrate perform "Calibration" (page 27).



#### Calibration

The calibration routine uses an internal UV sensor to match LED power to target irradiance values. Calibration should be performed monthly or whenever the expected curing properties are not met.

#### **Procedure**

- 1. Make sure that the curing chamber is empty.
- 2. Navigate to the Settings page as described in "Settings Page" (page 25).
- 3. Press the calibration icon from the Settings page.
- 4. From the Calibration Start page, press the center of the circle on the left side of the screen to initiate the calibration. See Figure 21. The calibration will start with 365nm and the round progress bar will increment as it progresses.

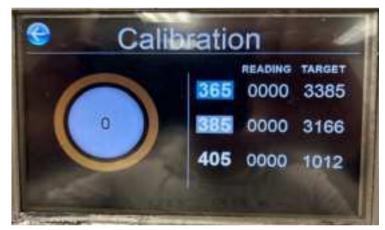


Figure 19: Calibration Start

5. If calibration is successful, the Calibration Passed message will display at the bottom of the screen. See Figure 22.



Figure 20: Calibration Passed



# Operation

## Loading the Chamber

1. Put on safety glasses, nitrile gloves and a protective coat.



### Warning: Eye Contact hazard

Uncured materials are hazardous if they touch the eyes. Before handling uncured parts, put on protective eyewear as specified in the material safety data sheet.



### Warning: Skin Contact hazard

Uncured materials are hazardous if they touch the skin. Before handling uncured parts, put on protective gloves and a lab coat as specified in the material safety data sheet.

- 2. Partially remove the tray from the chamber, without touching the middle of the glass where the parts will be placed.
- 3. As soon as is possible, grip the tray with both hands, and do one of the following:
  - slide it outwards until it is approximately 60% out of the chamber.
  - · Slide it outwards completely, release it from its rails, and remove it from the chamber.



#### Caution

Carefully handle the tray, as it is made of glass and can be easily damaged. When possible, handle with two hands and remove it completely from the chamber only when necessary.

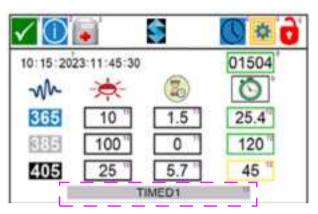
- 4. Place the part onto the tray.
- 5. Do one of the following:
  - If the tray was partly removed, slide it back into place.
  - If the tray was completely removed from the chamber, carefully engage it with its rails until it meshes, and slide it back into place.
- 6. Close the chamber door.



## Curing

1. In the touch screen, user interface, choose a program. See "Working with Programs" (page 23).

Figure 21: Touch screen—main window



2. Verify that the curing chamber door is firmly closed.



Closing the door activates an interlock that allows the curing process to begin. Make sure that the door is firmly closed before continuing.

3. Press Start.

The curing process commences.

4. When the curing program is complete, open the curing chamber door to remove the cured parts.



## Maintenance

## Cleaning the Glass Tray

1. Put on safety glasses, nitrile gloves and a protective coat.



#### Warning: Eye Contact hazard

Uncured materials are hazardous if they touch the eyes. Before handling uncured parts, put on protective eyewear as specified in the material safety data sheet.



### Warning: Skin Contact hazard

Uncured materials are hazardous if they touch the skin. Before handling uncured parts, put on protective gloves and a lab coat as specified in the material safety data sheet

- 2. Partially remove the tray from the chamber, without touching the middle of the glass where the parts will be placed.
- 3. As soon as is possible, grip the tray with both hands, and do one of the following:
  - slide it outwards until it is approximately 60% out of the chamber.
  - Slide it outwards completely, release it from its rails, and remove it from the chamber.



#### Caution:

Carefully handle the tray, as it is made of glass and can be easily damaged. When possible, handle with two hands and remove it completely from the chamber only when necessary.

- 4. Using a lint-free cloth and isopropanol, gently remove any artifacts such as resin or fingerprints from the tray.
- 5. Dispose of the dirty cloth in a hazardous waste container, following local regulations.

## Cleaning the Exterior Panels

1. Put on safety glasses, nitrile gloves and a protective coat.



#### Warning: Eye Contact hazard

Uncured materials are hazardous if they touch the eyes. Before handling uncured parts, put on protective eyewear as specified in the material safety data sheet.



#### Warning: Skin Contact hazard

Uncured materials are hazardous if they touch the skin. Before handling uncured parts, put on protective gloves and a lab coat as specified in the material safety data sheet.



### Cleaning the Exterior Panels

2. Using a lint-free cloth and isopropanol, remove any debris from the exterior panels. Do not wipe the touchscreen.



Use a lint-free cloth to avoid scratching the external panels.

3. Dispose of the dirty cloth in a hazardous waste container, following local regulations.





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