opentrons OT-2 Temperature Module GEN2

opentrons OT-2 Temperature Module GEN2 User Guide

Contents

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Temperature Module GEN2

Specifications

- **Product Elements:**
  - LCD Temperature Display
  - Hot & Cold Plate
  - USB Port
  - Power Button
  - Exhaust
  - Serial Number
- **BOX CONTENTS:**
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  - (1) Power Supply
  - (1) Power Cable
  - (1) USB Cable
  - (1) 24-Well Thermal Block
  - (1) 96-Well PCR Thermal Block
  - (1) Flat Bottom Plate for OT-2

Product Elements

- LCD Temperature Display
- Hot & Cold Plate
- USB Port
- Power Button

- Exhaust
- Serial Number

Product Usage Instructions

Before You Begin
Review important information about deck placement, alignment, and anchor adjustments before installing the module.

Flex Attachment Steps

1. Insert the Temperature Module GEN2 into the caddy below the deck.
2. Ensure proper alignment of exhaust, power, and USB ports facing outward.
3. Secure the module using screw-adjustable anchors on the caddy.

OT-2 Attachment Steps

1. Clip the module directly to the deck of the OT-2 robot.
2. No caddies are required for OT-2 attachment.

FAQ

- **Q: How do I identify the flat bottom thermal block for Flex and OT-2?**
  A: The thermal block for Flex has “Opentrons Flex” on its top surface, while the one for OT-2 does not have any specific marking.
- **Q: What should I do if the ports of the Temperature Module GEN2 are facing inwards during installation?**
  A: Ensure that the exhaust, power, and USB ports face outward to prevent air venting onto the deck and to ease cable routing and access.

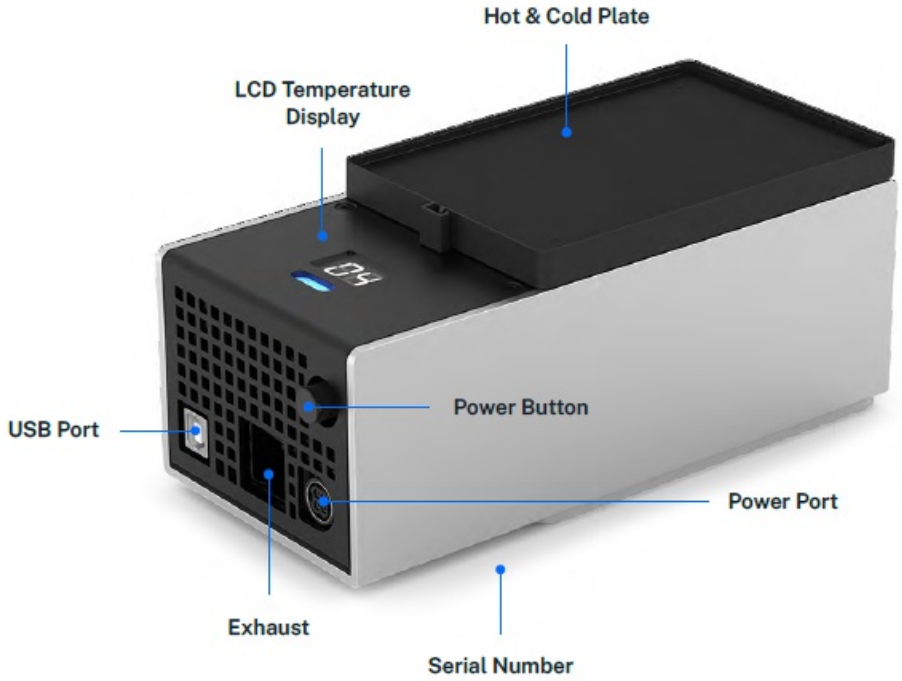
Temperature Module GEN2
Quickstart Guide

Opentrons Labworks Inc.
October 2023

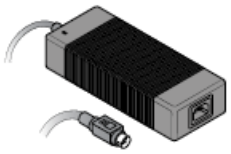
Product Description

The Opentrons Temperature Module GEN2 is a hot and cold plate module. It can reach and maintain temperatures ranging from 4 °C to 95 °C. The module is compatible with the Opentrons Flex and Opentrons OT-2 liquid handling robots.

Product Elements



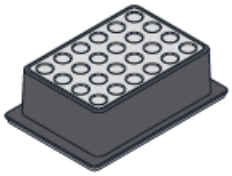
BOX CONTENTS



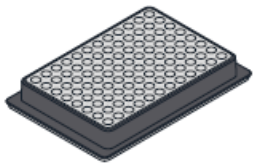
(1) Power Supply

(1) Power Cable

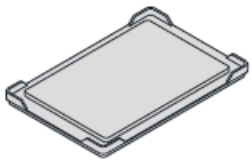
(1) USB Cable



(1) 24-Well Thermal Block



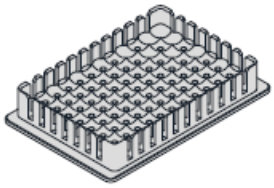
(1) 96-Well PCR Thermal Block



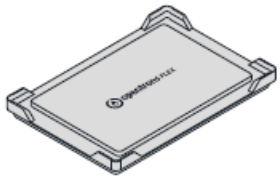
(1) Flat Bottom Plate for OT-2

THERMAL BLOCKS

- The Temperature Module comes with 24-well, 96-well, and flat bottom thermal blocks. The blocks hold 1.5 mL and 2.0 mL tubes, 96-well PCR plates, PCR strips, and flat bottom plates.
- The Temperature Module Caddy comes with a deep well thermal block and a flat bottom thermal block designed for use with the Flex Gripper. These blocks hold deep well plates and flat bottom plates.



Deep Well Thermal Block



Flat Bottom Plate for Flex

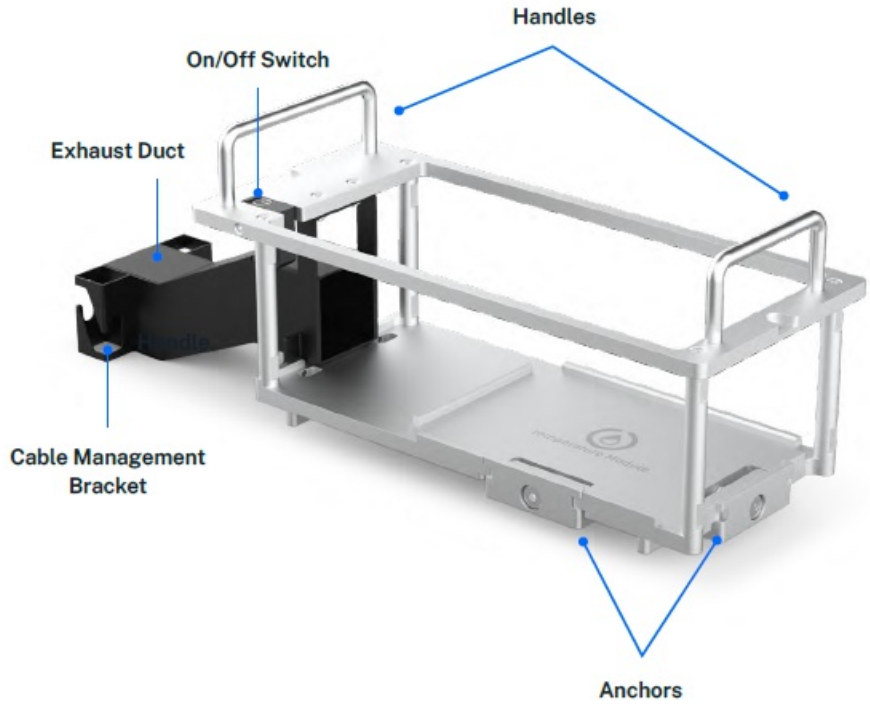
- Opentrons recommends only using the following thermal blocks, depending on the type of robot you have.

Thermal block	Flex	OT-2
24-well	✓	✓
96-well PCR	✓	✓
Deep well	✓	×
Flat bottom for Flex	✓	×
Flat bottom for OT-2	×	✓

- You can tell which flat bottom thermal block you have because the one for Flex has the words “Opentrons Flex” on its top surface. The one for OT-2 does not.

FLEX CADDIES

- When used with a Flex robot, the Temperature Module GEN2 fits into a caddy that occupies space below the deck. The caddy places your labware closer to the deck surface and allows for below-deck cable routing. See the Modules chapter in the Flex Instruction Manual for more information.



- The OT-2 does not use caddies. Modules clip directly to the deck. Module caddies are available for purchase at shop.opentrons.com.

Before You Begin

Review this section for important information about Temperature Module GEN2 deck placement, alignment, and anchor adjustments before installing the module.

DECK PLACEMENT AND CABLE ALIGNMENT

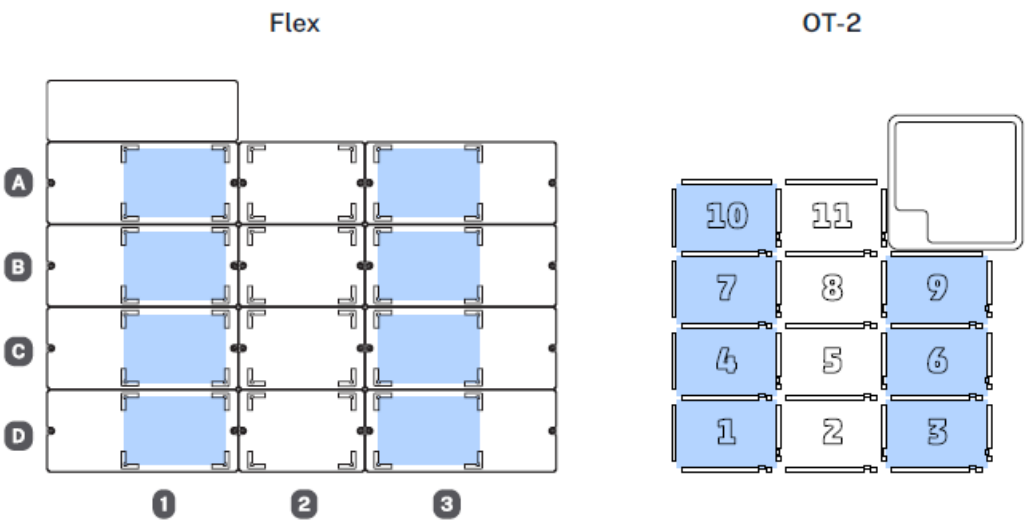
The supported deck slot positions for the Temperature Module GEN2 depend on the robot you're using.

Robot model Deck placement

- **Flex**

  In any deck slot in column 1 or 3. The module can go in slot A3, but you need to move the trash bin first.
- **OT-2**

  In deck slots 1, 3, 4, 6, 7, 9, or 10.



To properly align the module relative to the robot, make sure its exhaust, power, and USB ports face outward, away from the center of the deck. This keeps the exhaust port clear and helps make cable routing and access easier.

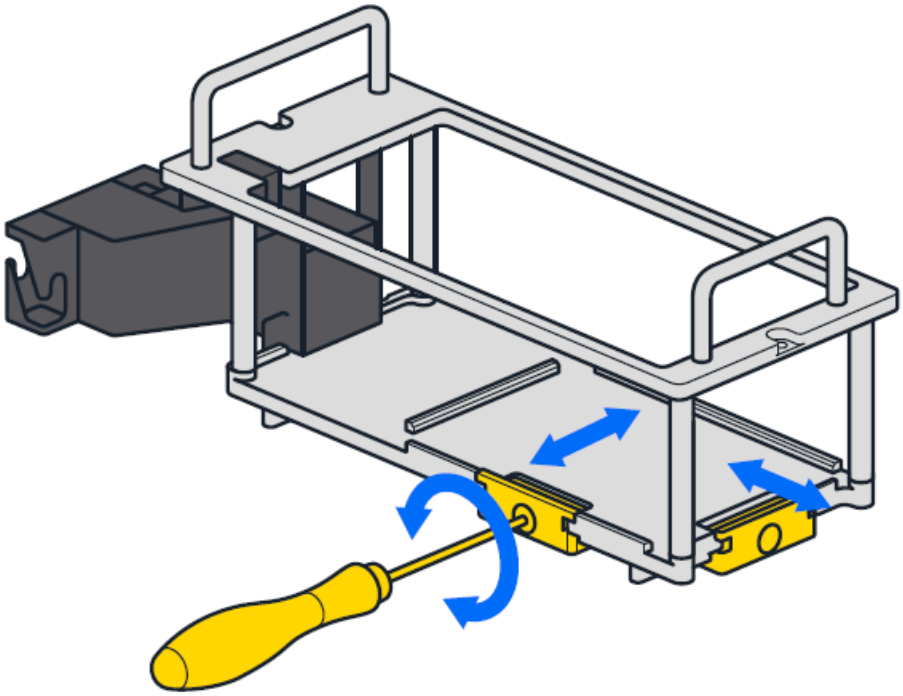
Robot model Exhaust, Power, and USB alignment

- **Flex**
  - Facing left in column 1.
  - Facing right in column 3.
- **OT-2**
  - Facing left in slot 1, 4, 7, or 10.
  - Facing right in slot 3, 6, or 9.

Warning: Do not install the Temperature Module GEN2 with the ports facing in, towards the middle of the deck. This alignment vents air onto the deck and makes cable routing and access difficult.

ANCHOR ADJUSTMENTS
Anchors are screw-adjustable panels on the Temperature Module GEN2 caddy. They provide the clamping force that secures the module to its caddy. Use the 2.5 mm screwdriver to adjust the anchors.

- To loosen/extend the anchors, turn the screws counter-clockwise.
- To tighten/retract the anchors, turn the screws clockwise.



Before installation:

- Check the anchors to make sure they’re level or extend slightly past the base of the caddy.
- If the anchors interfere with installing the module, adjust them until there’s enough clearance to seat the module and then tighten them to hold it in place.

Flex Attachment Steps

To attach the Temperature Module GEN2 to your Flex:

1. Choose the supported slot you want to use for the module. Use the 2.5 mm screwdriver to remove the deck slot plate.
2. Insert the module into its caddy by aligning the power button on the module with the on/off switch on the caddy. **Tip:** If you're having trouble inserting the module into its caddy, the module's power button is probably facing away from the caddy's on/off switch. Turn the module so the power button faces the on/off switch and try again.
3. Holding the module in the caddy, use the 2.5 mm screwdriver to turn the anchor screws clockwise to tighten the anchors. The module is secure when it doesn't move while gently pulling on it and rocking it from side to side.
4. Connect the power and USB cables to the module and route the cables through the cable management bracket on the end of the caddy's exhaust duct.
5. Insertthecaddyintothedeckslot,exhaustductfirst,androutethepower and USB cables through the Flex. Do not connect the power cable to a wall outlet yet.
6. Connect the free end of the USB cable to a USB port on the Flex.
7. Connect the power cable to a wall outlet.
8. Gently press the on/off switch to turn the module on. If you successfully connected the module, it will appear in the Pipettes and Modules section on your robot's device detail page in the Opentrons App.

OT-2 Attachment Steps

To attach the Temperature Module GEN2 to your OT-2:

1. Choose the supported slot you want to use for the module and press it gently into place.
2. Connect the USB cable to the module and to a USB port on the OT-2. Use the cable holders on the side of the robot to keep the USB cable out of the way.
3. Connect the power cable to the module and then to a wall outlet.
4. Gently press the on/off switch to turn the module on. If you successfully connected the module, it will appear in the Pipettes and Modules section on your robot's device detail page in the Opentrons App.

Additional Product Information

- **MAINTENANCE**
  Users should not attempt to service or repair the module themselves. If you have concerns about your module's performance or require maintenance, please contact Opentrons Support.
- **WARRANTY**
  All hardware purchased from Opentrons is covered under a 1-year standard warranty. Opentrons warrants to the end-user of the products that they will be free of manufacturing defects due to part quality issues or poor workmanship and also warrants that the products will materially conform to Opentrons' published specifications.
- **SUPPORT**
  - Opentrons Support can help you with questions about our products and services. If you discover a defect, or believe your product is not functioning to published specifications, contact us at **support@opentrons.com** .
  - Please have the Temperature Module's serial number available when contacting support. You can find

the serial number on the bottom of the module or in the Opentrons App. On the Temperature Module card in the Pipettes and Modules section of your robot's device detail page, click the three-dot menu (⋮) and then About.

- **APP DOWNLOAD**

  Control your liquid handling robot and module using the Opentrons App. Download the app for Windows, macOS, or Ubuntu at **https://opentrons.com/ot-app/** .
- **COMPLETED CERTIFICATIONS**

  IEC, FCC, RoHS
- **RECOMMENDED OPERATING CONDITIONS**
  - Environmental temperature: 20–25 °C
  - Environmental humidity: 80% maximum
- **MANUFACTURER DESCRIPTION**
  - Opentrons Labworks Inc
  - 45-18 Ct Square W
  - Long Island City, NY 11101

Post-sales service & contacting Opentrons
If you have any questions about the use of the system, abnormal phenomena, or special needs, please contact: **support@opentrons.com** . Also visit **www.opentrons.com** .

Documents / Resources

	**opentrons OT-2 Temperature Module GEN2** [pdf] User Guide OT-2 Temperature Module GEN2, OT-2, Temperature Module GEN2, Module GEN2

References

- **Opentrons | Lab Automation | Lab Robots for Life Scientists**
- **Opentrons App - Opentrons**
- **User Manual**