



Spartan Cube

Operator's Manual

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LIMITATIONS ON WARRANTY

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TABLE OF SYMBOLS

Symbols are used throughout this document or on the product. Symbols are used as visual signals to point out important information. The table below lists the symbols and a brief description of their meanings.

	Warning, Risk of Danger – This symbol is used to indicate that non-compliance with the instructions or procedures may lead to physical injury, or even death, or could damage the instrument.
	Important Note – This symbol is used to bring the user’s attention to an important annotation. This symbol indicates the need for the user to consult the instructions.
	Biohazard – This symbol is used to indicate that certain precautions must be taken when working with potentially infectious material.
	This symbol indicates the manufacturer of the device or system component.
	Caution, Risk of Electrical Shock – This symbol is used to indicate that certain precautions must be taken to avoid electrical shock.
	Device serial number – Symbol denotes the manufacturer’s serial number.
	Catalogue Number – Indicates the manufacturer’s catalogue number so that the device can be identified.

INTRODUCTION

Thank you for using the Spartan Cube Platform.

If you have any questions or concerns, please contact your Authorized Spartan Dealer at your earliest convenience. In the event your dealer is unable to solve your problem, contact Spartan Bioscience by e-mail at support@spartanbio.com or by telephone from 9am-5pm EST at +1.613.228.7756.

Spartan Cube

The Spartan Cube is a multi-well thermal cycler with optical detection capabilities. The unit has two optical detection channels.

The platform includes:

- Spartan Cube h01014238
- Netbook Computer h01003634
- Appropriate cables

Each instrument is uniquely identified by a serial number on the bottom of the Cube. **f**

Operating Requirements

- The Spartan Cube Platform is designed for indoor use only.
- Operate in an ambient temperature between 15C and 30C.
- Do not operate in a cold room or a refrigerated area.
- Operate in an ambient relative humidity of 10% to 80%.
- Ensure adequate ventilation at the rear of the device.
- Provide a minimum of 50 x 30 cm of desk space and two (2) electrical power outlets.

Spartan Cube Platform Specifications (Ratings)

Specification	Min	Typical	Max	Comments
Electrical Compatibility	100VA		240VA	100 – 240 VA, 50 – 60 Hz
Max Electrical Power	50W		200W	90W max for only the Cube
Cube Operating Voltage	23.76V	24V	24.24V	24 +/- 5% as per Cube power adapter spec
Cube Operating Current			3.75A	@24V as per Cube power adapter spec
Operating Temperature	15		30	Degrees Celsius
Operating Humidity	10		80	% RH Non-condensing

GETTING STARTED

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Y Users **must not** make any changes to the computer, software, instrument, or operating system.

Location

The Spartan Cube Platform should be set up in an area that meets the criteria below. Failure to adhere to these constraints may result in poor performance.

- The Spartan Cube Platform must be set up in a location with an ambient temperature of 15C to 30C and an ambient relative humidity of 10% to 80% (non-condensing).
- The Spartan Cube must have adequate rear ventilation. To protect the unit from overheating, the openings at the rear of the unit must not be blocked and a minimum gap of 10 cm from these vents must be maintained.

Setup

When fully set up, the Spartan Cube Platform requires a minimum of 50(wide) x 30(deep) cm of desk space and two (2) electrical power outlets. The installation is completed by following the steps below.

- Remove the Spartan Cube from the shipping container and place it upright on the desk. Plug the Spartan Cube power adapter into the back of the Cube and then into the wall outlet.
- Remove the computer from its shipping container and place the computer to either side of the Spartan Cube. Plug the computer's power adapter into the appropriate location on the computer and then into the wall outlet.
- Remove the Ethernet cable and USB adapter from the packaging and plug the adapter end into the appropriate location on the computer and the Ethernet end into the connection on the back of the Spartan Cube.

Turn ON the system

- Turn on the computer. It will automatically launch the Spartan Cube application.
- Turn on the Spartan Cube by the button on the back. The light ring will initially light up yellow and then change to blue.
- Follow the assay-specific instructions.

Turn OFF the system

1. Turn the Spartan Cube off by the button on the back.

2. Ensure any assay specific test cartridges are appropriately disposed. F
3. Ensure that the Cube's lid is closed.
4. Shut down the computer.

WARNINGS AND PRECAUTIONS

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Training

Before using this system, it is important to receive the appropriate training from your Spartan Bioscience representative or Authorized Spartan Dealer. After training, it is important to follow the instructions in this manual.



Electrical

The Spartan Cube Platform includes an electromechanical instrument called the Spartan Cube. There is a potential danger of electrical shock or physical injury to the user if the instrument is not used according to the instructions given in this manual. Observe all general safety precautions which apply to electrical instruments.

- The power supply cord must be inserted into a power outlet with a protective earth contact (ground).
- Unplug the power supply cord from the power outlet before cleaning the instrument.
- Only use the supplied power cords or cables. If any of the cables become damaged or inoperable, please contact your Authorized Spartan Dealer for a replacement.
- Do not use the instrument near water or immerse in water.
- The instrument should be operated only with the power source supplied with the instrument and as indicated on the marking label of the power supply.
- The instrument should be used only with the supplied power supply. If the power supply becomes inoperable, please contact your Authorized Spartan Dealer for a replacement.
- Always plug the power supply into the instrument, and then plug the power supply into the power outlet.
- Do not allow anything to rest on the power cord.
- Do not install the instrument where the power cord may be stepped on.
- To reduce the risk of electrical shock, do not disassemble the instrument. Refer servicing to Spartan authorized service personnel only.
- Do not overload power outlets because this may result in risks of fire or electrical shock.
- Unplug the power supply cord from the power outlet and refer to Spartan authorized service personnel if one or more of the following conditions exist:
 - The power supply cord or plug is damaged or frayed.

- Liquid has been spilled onto the instrument.
- The instrument has been exposed to water.
- The instrument does not operate normally by following the operating instructions.

Maintenance



There are no user-serviceable parts. If the instrument becomes dusty, use a dry static-free cloth to clean the surface of the instrument. Solids or liquids should not be allowed to fall into the sample loading area at any time because they could interfere with the optical detection apparatus. As a preventative measure, keep the lid closed at all times, except when samples are being loaded or unloaded.

If you have any issues or concerns about the instrument, please contact Spartan Bioscience Inc. by e-mail at support@spartanbio.com or by telephone from 9am-5pm EST at +1.613.228.7756.

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Slots in the back of the instrument are provided for ventilation. To protect the unit from overheating, these openings **must not** be blocked and a 10 cm gap must be maintained. Adequate ventilation should be confirmed at the start of each day.

Servicing

The Spartan Cube System is designed to not require in-field calibration. The Positive System Control (PSC) is designed to detect a change in performance of either the Spartan Cube Platform or the Spartan Assays. If the PSC fails repeatedly, please contact Spartan Bioscience by e-mail at support@spartanbio.com or by telephone from 9am-5pm EST at +1.613.228.7756 and arrange for factory recalibration.

DISPOSAL

There are no user-serviceable parts in the Spartan Cube. Repair must occur at the manufacturer's location. There are no special disposal requirements other than standard procedures used for the disposal of electrical and electronic devices. The unit itself does not pose any biohazard risks.



Spartan Bioscience supports European Union Directive 2002/96/EC regarding the waste of electrical and electronic equipment (WEEE). As such, final holders and resellers can return the electrical and electronic waste of the Spartan Cube System free of charge. Arrangements may be made by contacting Spartan Bioscience at +1.613.228.7756 or support@spartanbio.com.

LICENSES AND PATENTS

This product is covered by US Patent Numbers 8,528,777; 8,735,104; 9,593,369 and other patents issued and pending by Spartan Bioscience worldwide.

TRADEMARKS

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