



Heating Pad for Rat

Model # ALA HEATINGPAD-2

Ver. 2.0
3.2018

Introduction

The Rat Heating Pad is a homoeothermic blanket to actively maintain a small animal's body temperature at a pre-set target value for in vivo research.



Picture with optional TC4-CABLE

The HEATINGPAD-2 has an accompanying thermistor (TS-1 2252ohm @ 25°C) that connects to a temperature controller. The HEATINGPAD-2 connects to ALA Scientifics' temperature controller (HCT-10) as well as npi electronics temperature controllers.

The thermistor is used as a feedback sensor which provides the temperature of the animal (internal or external) or the pad itself if kept in contact, to the temperature controller. The temperature controller allows for the adjustment of current to the heating pad to maintain the desired animal body temperature.

Usage

The animal is placed on the heating pad. Plug the Heating pad into the TC4-Cable(optional). The cable plugs into the front panel of the temperature controller used.

Place the thermistor probe in desired location in contact with animal body for measurement of animal body temperature. After completion of preparation including wire connection and probe positioning, turn on the power of the controller; set the target set-point temperature; continue to monitor animal body temperature throughout the experiments.

Connecting to HCT-10 Controller

The HEATINGPAD-2 is designed to work directly with ALA Scientific and NPI electronics temperature controllers.

The HEATINGPAD-2 will plug into a DIN connector on the front panel of these instruments.

Each instrument allows a mode of operation to be selected. The controller monitors the animal body temperature or the pad temperature through thermistor probe and displays it. A set-point is selected and the unit works to control to that set-point.

It is recommended to only use modes with feedback control via the thermistor probe. This will protect the HEATINGPAD-2 from damage due to overheating. Follow the temperature controller manual for proper settings.



A	CTRL 37.0°C	HEAT
CH B	36.9°C	SPEED ■ ■ ■
SET	37.0°C	OUT 7 V

HEATINGPAD-2 for other Controllers

The HEATINGPAD-2 can be operated with other temperature controllers as long as the device can deliver 12V and 1.2A and has a feedback sensor.

The HEATINGPAD-2 uses a 2252 Ohm thermistor as a feedback sensor.

The HEATINGPAD-2 can also be customized for use with third party temperature controllers.

Care and Maintenance

The heating pad must be cleaned after every usage. Never leave salt solutions or blood on the pad for an extended period of time. For best performance and maximum life span the HEATINGPAD-2 should be cleaned after every use. Use a mild soap/disinfectant to wipe down the unit. Dry immediately.

Never let the unit heat up above 45°C. DO NOT KEEP THE THERMISTOR IN THE AIR, ALWAYS BE SURE IT HAS CONTACT FOR FEEDBACK OR PAD CAN OVERHEAT.

Never submerge the Heating pad. Do not cut or puncture the pad.

Specifications

Thermistor:	2252 Ohms @ 25°C
Maximum Power	12V; 10 Ohm resistor
Maximum Output	12V; 14 Watts
Maximum Temperature:	45°C
Connector:	4 pin straight connector
Materials:	Silicone rubber
Pad Dimensions:	L 229mm, W 152mm, H 1 mm
Weight	93g

Warranty

ALA Scientific Instruments, Inc. agrees to warranty this product against defects in material and workmanship for 30 days from date of shipment. Remedy shall be limited to replacement or repair of the item(s) at ALA's discretion. The usage of this product by the user will indicate the users understanding of the use of this product as set forth in this manual. Neither ALA Scientific Instruments, Inc., nor any of its affiliates will be held responsible for damage to laboratory equipment, including microscopes, resulting from the use or misuse of this product, including damage resulting from inputs exceeding specified limits that result in malfunction to or from this device.

In the event that warranty repairs are necessary, shipping charges to the factory are the customer's responsibility. Return charges will be paid by ALA Scientific Instruments for warranty repairs only.

This instrument is not for clinical use. It is strictly for basic research in a laboratory setting. It has no clinical application whatsoever and cannot be used on human subjects.