



## **(BSAT Series)**

# Silicone Rubber Heating Tapes with Time Percentage Dial Control Instruction Manual



Read and understand this material before operating or servicing these heating tapes. Failure to understand how to safely operate these heaters could result in an accident causing serious injury or death. These heaters should only be operated by qualified personnel.

**Table of Contents**

Introduction .....2  
What is a Time Percentage Dial Control? .....2  
Safety Alert Symbol .....2  
Important Safety Instructions .....3  
Specifications .....4  
Operating Instructions .....5  
Troubleshooting Guide .....6  
Warranty .....7

**INTRODUCTION**

BSAT heating tapes are designed for temporary, quick, and easy heating.

Wrap the flexible heating tape around your desired object and turn on the time percentage dial control to your preferred setting.

**WHAT IS A TIME PERCENTAGE DIAL CONTROL?**

A time percentage dial control varies the proportion (length) of time the heater is in the “on” or “off” heating mode. The heating application will determine the actual set point required. The controller does not use a temperature sensor and therefore satisfactory operation requires occasional supervision under changing load conditions.



**SAFETY ALERT SYMBOL**

The symbol above is used to call your attention to instructions concerning your personal safety. It points out important safety precautions. It means **“ATTENTION! Become Alert! Your Personal Safety is involved!”** Read the message that follows and be alert to the possibility of personal injury or death.



Immediate hazards which **WILL** result in severe personal injury or death



Hazards or unsafe practices that **COULD** result in severe personal injury or death



Hazards or unsafe practices that **COULD** result in minor personal injury or property damage

**SAVE THESE INSTRUCTIONS!**

Additional copies of this manual are available upon request.

**IMPORTANT SAFETY INSTRUCTIONS**

**⚠ DANGER**

A person who has not read and understood all operating instructions is not qualified to operate this product.

**⚠ DANGER**

- Do not immerse heater in liquid.
- Keep volatile or combustible material away from heater when in use.
- Do not use heater in hazardous locations
- Keep sharp metal objects away from heater.

Failure to observe these warnings may result in electric shock, risk of fire, and personal injury.

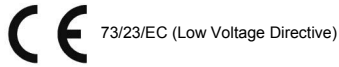
**⚠ WARNING**

**End User Must Comply to the Following:**

- Only qualified personnel are allowed to connect electrical wiring.
- Disconnect all supply power at the source before making any power connections.
- All electrical wiring must follow local electrical codes and highly recommend following NEC Article 427.
- Final installation / wiring is to be inspected by the authority who has jurisdiction in the area that the heating tape is installed.
- The end-user is responsible for providing a suitable disconnecting device.
- The end-user is responsible for providing suitable electrical protection device. It is highly recommended that a ground fault circuit breaker is used.

Failure to observe these warnings may result in personal injury or damage to the heater.

**Agency Approvals**



**Approvals valid only when** installed in accordance with all applicable instructions, codes, and regulations.

**⚠ CAUTION**

- Never handle the heating tape while it is in operation; always disconnect the heating tape from the power source and allow to cool prior to handling.
- Inspect heating tape before use.
- Do not use heating tape with torn or worn surfaces.
- Do not wrap the heater over itself
- Do not repair damaged or faulty heaters.
- Do not crush or apply severe physical stress on heater or cord assembly.
- Unplug heater when not in use.
- Fasten heater to device using approved methods only.
- If spillage of foreign matter onto heater occurs, disconnect from power source and clean after heater has been allowed to cool.
- Never operate a heater without an appropriate heat sink (device being heated is considered a heat sink).
- Make sure there is a uniform fit prior to energizing. If there are air gaps between surface to be heated and the heater, hot spots can occur and could result in burnouts due to overheating.

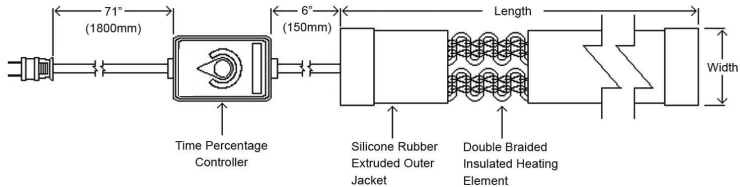
Failure to observe these warnings may result in personal injury or damage to the heater.

**SPECIFICATIONS**

Operating conditions:

Maximum Exposure Temperature: 450°F (232°C)

Time Percentage Dial Controller	120 or 240VAC Models
Power density: 6.0 watts/in <sup>2</sup> (0.009 watts/mm <sup>2</sup> )	Moisture and Chemical Resistance
Suitable for Conductive Surfaces	120 VAC model includes NEMA 1-15 plug



Width in (mm)	Length in (mm)	Total Watts	Part Number 120VAC	Part Number 240VAC
0.5 (13)	24.0 (610)	72	BSAT051002	BSAT052002
0.5 (13)	48.0 (1220)	144	BSAT051004	BSAT052004
0.5 (13)	72.0 (1830)	216	BSAT051006	BSAT052006
0.5 (13)	96.0 (2440)	288	BSAT051008	BSAT052008
0.5 (13)	120.0 (3050)	360	BSAT051010	BSAT052010
1.0 (25)	24.0 (610)	144	BSAT101002	BSAT102002
1.0 (25)	48.0 (1220)	288	BSAT101004	BSAT102004
1.0 (25)	72.0 (1830)	432	BSAT101006	BSAT102006
1.0 (25)	96.0 (2440)	576	BSAT101008	BSAT102008
1.0 (25)	120.0 (3050)	720	BSAT101010	BSAT102010
2.0 (51)	24.0 (610)	288	BSAT201002	BSAT202002
2.0 (51)	48.0 (1220)	576	BSAT201004	BSAT202004
2.0 (51)	72.0 (1830)	864	BSAT201006	BSAT202006
2.0 (51)	96.0 (2440)	1152	BSAT201008	BSAT202008
2.0 (51)	120.0 (3050)	1440	BSAT201010	BSAT202010
3.0 (76)	24.0 (610)	432	BSAT301002	BSAT302002
3.0 (76)	48.0 (1220)	864	BSAT301004	BSAT302004
3.0 (76)	72.0 (1830)	1296	BSAT301006	BSAT302006
3.0 (76)	96.0 (2440)	1440	BSAT301008	BSAT302008
3.0 (76)	120.0 (3050)	1440/1800	BSAT301010	BSAT302010

## OPERATING INSTRUCTIONS

### **⚠ WARNING**

Read and understand this entire manual before operating this electric heating tape.

#### **STEP 1**

Remove heater from box. Visually inspect heater. Do not use if torn or damaged.

#### **STEP 2**

##### **Installing your heating tape:**

The flexible heating tape can be installed on both a flat and/or curved surface. For a flat surface, lay the heating tape onto the surface to be heated. For a curved surface, wrap the heating tape onto the surface to be heated. Attach the heating tape to the surface by using aluminum tape, fiberglass tape, or a mechanical clamping devices which will not cause damage to the heating tape.

- **The length of one entire side of the heating tape must be in full contact with the surface. Ensure the heating tape is not kinked, twisted, or any portion of the tape hanging free from the surface (A).**
- **Do not overlap heating tape on itself (B).**



**Correct Installation**



**A.) Incorrect Installation:  
Heating tape hanging free from the surface**



**B.) Incorrect Installation:  
Heating tape overlapped on itself**

#### **STEP 3**

**For 120VAC:** Plug power cord into appropriate outlet.

**For 240VAC:** Terminate power cord to appropriate electrical power supply. The power cable consists of two color-coded conductors, black and white. The black wire should be connected to Line 1. The white wire should be connected to Line 2. The power connections must be adequately rated to electrically support the voltage and amperage of the heater. The identification label located on the power cord displays voltage and amperage requirements.

#### **STEP 4**

##### **Set time percentage dial control:**

Start with a low setting such as 10 and slowly raise it up until you reach your desired temperature. Regular monitoring of temperature obtained is strongly recommended. Use tape for short periods of time, especially at settings over 50. The BSAT heating tape is designed for temporary applications.

## TROUBLESHOOTING GUIDE

Please read this guide prior to contacting. This guide is designed to answer the most commonly asked questions. If you are unable to identify the problem or need additional assistance, please contact us.

PROBLEM	SOLUTION(S)
Does not heat	Verify heater is connected to proper voltage.  Check to see if there is a resistance reading (not an open circuit) in heater using an ohm meter.
Circuit breaker is tripping	Validate that the circuit breaker is capable of handling the amp requirement of heater. The identification label located on the power cord displays the heater's amperage requirement.  Examine heater and cord for any damage.

## WARRANTY INFORMATION

ProTherm warrants to the original purchaser for the **period of eighteen (18) months from date of shipment or twelve (12) months from date of installation**, whichever comes first, that the products manufactured: (A) conform to the description and specifications as set forth in ProTherm's current catalogue or in the quotation and drawings submitted by ProTherm; and (B) are free from defects in materials and workmanship under prescribed use and service.

**Remedy.** ProTherm's obligation and the exclusive remedy under this warranty shall be limited to the repair or replacement, at ProTherm's option, of any parts of the product which may prove defective under prescribed use and service within eighteen (18) months from date of shipment or twelve (12) months from date of installation, whichever comes first, and which, following BriskHeat's examination, is determined by ProTherm to be defective under conditions described herein: provided, ProTherm has, at its option, a representative of ProTherm present at start-up. ProTherm shall **not** be liable for any incidental, consequential or special damages arising from any breach of warranty, breach of contract, negligence, or any other legal theory, including but not limited to, loss of use of parts or equipment or any associated equipment, cost of capital, cost of any substitute equipment, facilities or services, overhead, downtime costs, or claims of customer or purchaser for such damages. This remedy does **not** include labor costs for installation or removal of the equipment or parts covered by this warranty, and ProTherm shall not be responsible for such labor costs.

**Limitation.** This warranty shall not apply to any product or part thereof which has been subject to accident, negligence, alteration, damage during shipment, improper service, abuse, or misuse, including but not limited to use beyond rated capacity. ProTherm makes no warranty whatsoever with respect to accessories or parts not supplied or manufactured by ProTherm. ProTherm's obligation under this warranty shall be conditioned upon ProTherm's receiving written notice of any defect within fifteen (15) days after its discovery, and, at ProTherm's option, return of such equipment or parts prepaid to its factory at 3522 Central Pike, Building 203, Hermitage, TN 37076.

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This warranty allocates risk between the purchaser and ProTherm as authorized by the Uniform Commercial Code and other applicable law.

